APPENDIX XI

110. MCE IU INTERFACE

110.1 Scope. This Appendix details the MCE IU interface. Table XI-I provides the Global Memory allocations utilized for the MCE application.

110.1.1 MCE IU Functional Interfaces. The MCE IU shall interface with Global Memory via the Plain Text Bus (PTB). The following functions located in the MCE IU shall interface with Global Memory:

a. Subscriber Interface Computer Program (SICP)

b. Digital Voice Port

c. 1553 MUX Port

d. Tailored I/O Port

e. Support Port

The Plain Text Bus (PTB) priority structure is shown in Table XI-II.

A functional interface block diagram for the MCE IU is shown in Figure XI-I. The details for each functional data interface are described in detail in the following paragraphs.

110.1.1.1 Subscriber Interface Computer Program Interface. The MCE SICP shall interface with the IU data ports and the NICP located in the DDP via Global Memory. The SICP shall synchronize data transfers to and from the NICP based upon receipt of a data transfer interrupt from the DDP. The SICP shall then read the input data from all IU ports and the NICP and then perform the necessary processing to formulate the required outputs.

110.1.1.1.1 SICP/NICP Data Transfer. The data transfer between the SICP and the NICP shall be as specified in 10.1.1.3, Appendix I.

110.1.1.2 MCE Digital voice Port Interface. The Digital Voice Port shall interface with the SICP via Global Memory. The SICP shall provide two groups of voice port starting address locations (one group for each voice port). Each group shall consist of four starting addresses which shall be used by that Digital Voice Port for writing or reading digital voice messages into the corresponding buffer in Global Memory (two for encoding and two for decoding). The starting location for each voice port starting address group shall be 0080_{16} for Voice Port 1 and 0084_{16} for Voice Port 2. Both voice ports shall provide the transfer of digital voice data to an external vocoder operating at 2.4 or 16 k bits/second. When operating in the 16 k bits/second CVSD mode or

2.4 k bits/second LPC-10 non-error coded, the SICP shall supply buffers which have a length of 450 bits. When operating in the 2.4 k bits/seconds LPC-10 error coded, the SICP shall supply buffers which have a length of 225 bits.

The buffer composition of the 450-bit and 225-bit messages shall be as shown in Figures XI-II and XI-III respectively. The format for the voice port starting addresses shall be as follows:

MSB LSB

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	ADDRESS LOCATION
SB	BLB PTT				ADDRESS A_1 ENCODE											0080_{16}
SB	BLB PTT				ADDRESS B_1 ENCODE											0081_{16}
SB	BLB	I	J	K	ADDRESS C_1 DECODE											0082_{16}
SB	BLB	I	J	K	ADDRESS D_1 DECODE											0083_{16}
SB	BLB PTT				ADDRESS A_2 ENCODE											0084_{16}
SB	BLB PTT				ADDRESS B_2 ENCODE											0085_{16}
SB	BLB	I	J	K	ADDRESS C_2 DECODE											0086_{16}
SB	BLB	I	J	K	ADDRESS D_2 DECODE											0087_{16}
VOICE BIT																

ADDRESS LOCATION 0081_{16} REPRESENTS VOICE PORT 1

ADDRESS LOCATION 0085_{16} REPRESENTS VOICE PORT 2

GLOBAL MEMORY ALLOCATION FOR FIXED ADDRESS MEMORY MCE APPLICATION		
(HEX) PTB	NUMBER OF WORDS	WORD GROUP
0000 TO 001F	32 (T)H	MUX RCV START ADDRESS POINTERS
0020 TO 003F	32 (T)	MUX XMIT START ADDRESS POINTERS
0040 TO 0062	35 (C) I	NICP TP PTP DATA TRANSFER
0063 TO 0074	18 (C)	PTP TO NICP DATA TRANSFER
0075 TO 0079	5 (C)	NICP TO SICP DTB START ADD LOC
007A	1 (C)	NICP DTB WORD COUNT WORD
007B TO 007C	2 (C)	NICP PTP MAILBOX WORDS
007D TO 007E	2 (C)	NICP SICP MAILBOX WORDS
007F	1 (C)	SICP MAILBOX FAIL WORD
0080 TO 0087	8 (C)	VOICE BUFFER START ADDRESS LOCATION
0088	1 (C)	VOICE BIT WORD
0089	1 (C)	SPARE
008A	1 (T)	MUX DMA TEST WORD
008B	1 (T)	SPARE
008C	1 (T)	MUX BIT (SELF TEST) WORD
008D	1 (T)	MUX MAILBOX WORD 1
008E	1 (T)	MUX MAILBOX WORD 2
008F	1 (T)	SPARE
0090	1 (T)	TAILORED OUTPUT DISCRETE WORD 1
0091	1 (T)	DIGITAL VOICE PORT MODE SELECT DISCRETE

GLOBAL MEMORY ALLOCATION FOR FIXED ADDRESS MEMORY MCE APPLICATION		
		WORD
0092	1 (T)	OUTPUT WORD 2
0093	1 (T)	MASK WORD
0094 TO 009F	12 (T)	TAILORED INPUT DISCRETE WORDS 2 & 3
00AO TO 00A7	8 (C)	RESERVED
00A8 TO 00AF	8 (C)	RESERVED
00B0 TO 00B4	5 (C)	RESERVED
00B5	1 (C)	VOICE 1 TEST/MAILBOX WORD
00B6	1 (C)	VOICE 2 TEST/MAILBOX WORD
00B7 TO 00B9	3 (C)	RESERVED FOR TEST
00BA TO 00D9	32 (C)	SACP INPUT BUFFER
00DA	1 (C)	SACP INPUT STATUS WORD
00DB	1 (C)	SACP OUTPUT STATUS WORD
00DC	32 (C)	SACP OUTPUT BUFFER
00FC TO 00FD	2 (C)	TSRD STARTING ADDRESS WORD
00FE	1 (C)	RESERVED FOR TSRD TEST WORD
00FF	1 (C)	SPARE
0100 TO 011F	32 (T)	RCV MESSAGE STATUS/VALIDITY WORD
0120 TO 013F	32 (C)	SPARE
0140 TO 0144	5 (C)	SICP TO NICP DTB START ADD LOC
0145	1 (C)	SICP TIME LOADING (SITL)
0146 TO 0149	4 (C)	RESERVED FOR NICP CHRONOMETER
014A	1 (C)	RESERVED FOR NICP RTB

GLOBAL MEMORY ALLOCATION FOR FIXED ADDRESS MEMORY MCE APPLICATION		
014B TO 0154	10 (C)	RESERVED FOR TERMINAL TESTING
0155	1 (C)	SPARE
0156	1 (C)	RESERVED FOR TERMINAL TESTING
0157	1 (C)	OTAR AND VOLTR
0158	1 (C)	PTP VERSION NO.
0159	1 (C)	CTP VERSION NO.
015A TO 015F	6 (C)	SPARE
0160	1 (C)	NICP TIME LOADING (NITL)
0161	1 (C)	NO. OF RECEIVED MESSAGES
0162	1 (C)	NO. OF XMIT MESSAGES
0163	1 (C)	NO. OF TOTAL MESSAGES
0164	1 (C)	NO. OF NICP BUSY'S/RECEIVED MESSAGE
0165 TO 0166	2 (C)	SPARE
0167	1 (C)	NO. OF RELAY BUSY
0168	1 (C)	NICP DECLARED FINE SYNC
0169	1 (C)	NO. OF PULSE WIDTH IPF ALARMS
016A	1 (C)	NO. OF 1030/1090 MONITOR IPG ALARMS
016B	1 (C)	NO. OF OUT OF BOUNDS IPF ALARMS
016C	1 (C)	NO. OF FREQUENCY COUNTER IPF ALARMS
016D	1 (C)	NO. OF HISTOGRAM IPF ALARMS
016E TO 016F	2 (C)	SPARE
0170	1 (C)	NO. OF RECEIVED

GLOBAL MEMORY ALLOCATION FOR FIXED ADDRESS MEMORY MCE APPLICATION		
		MESSAGES
0171	1 (C)	NO. OF XMIT MESSAGES
0172	1 (C)	NO. NICP BUSYS/RECEIVED MESSAGES
0173 TO 0174	2 (C)	SPARE
0175	1 (C)	NO. OF RELAY BUSY
0176	1 (C)	TIME OF DAY WORD 1
0177	1 (C)	TIME OF DAY WORD 2
0178	1 (C)	SICP TIME LOADING (SITL)
0179	1 (C)	NICP TIME LOADING (NITL)
017A	1 (C)	NO. OF NICP BUSY'S
017B	1 (C)	NO. OF SICP TO NICP MESSAGES
017C TO 017F	4 (C)	SPARE
0180	1 (C)	NO. OF TOV INDICATIONS NICP
0181 TO 0182	2 (C)	RESERVED FOR NICP IF TEST
0183 TO 01FC	121 (C)	SPARE
01FD	1 (C)	VOICE I/O CONTROLLER VERSION
01FE	1 (C)	MUX IOC PROM (U12)
01FF	1 (C)	MUX HOC PROM (U9)
0200 TO 033F	320 (C)	SPARE
0340 TO 1100	3521 (C)	NICP/SICP BUFFER AREA
1101 TO 11C9	201 (C)	POWER SHUTDOWN NICP
11CA TO 11E7	30 (C)	BIT DATA FILE
11E8 TO 12A1	186 (C)	POWER SHUTDOWN SICP
12A2 TO 2048	2048 (C)	INITIALIZATION DATA
1AA2 TO 1AFF	94 (C)	SPARE

GLOBAL MEMORY ALLOCATION FOR FIXED ADDRESS MEMORY MCE APPLICATION		
1B00 TO 1BFF	256 (C)	CSS WORDS
1C00 TO 1DF7	504 (C)	UNUSED PORT TO PORT AREA
1DF8 TO 1DFB	4 (C)	CHRONOMETER PORT TO PORT
1DFC TO 1F2F	308 (C)	UNUSED PORT TO PORT AREA
1F30 TO 1F3F	16 (C)	CPU CSS PORT TO PORT WORD
1F40 TO 1FEF	176 (C)	UNUSED PORT TO PORT AREA
1FF0 TO 1FF7	8 (C)	REF TIME BASE PORT TO PORT
1FF8 TO 1FFF	8 (C)	UNUSED PORT TO PORT AREA

H TAILORED
I COMMON (WITH OTHER JTIDS TERMINALS)

TABLE XI-II

PLAIN TEXT BUS PRIORITY STRUCTURE

PRIORITY	DEVICE
0 HIGHEST	MUX 1
1	SPARE
2	SPARE
3	NICP CPU
4	SUPPORT PORT
5	SPARE
6	PLAIN TEXT PROCESSOR (PTP)
7	VOICE 1 AND 2 PORT
8	SPARE
9	SPARE
10	SPARE
11	SPARE
12	SPARE
13	SPARE
14	TAILORED PORT
15	SICP CPU

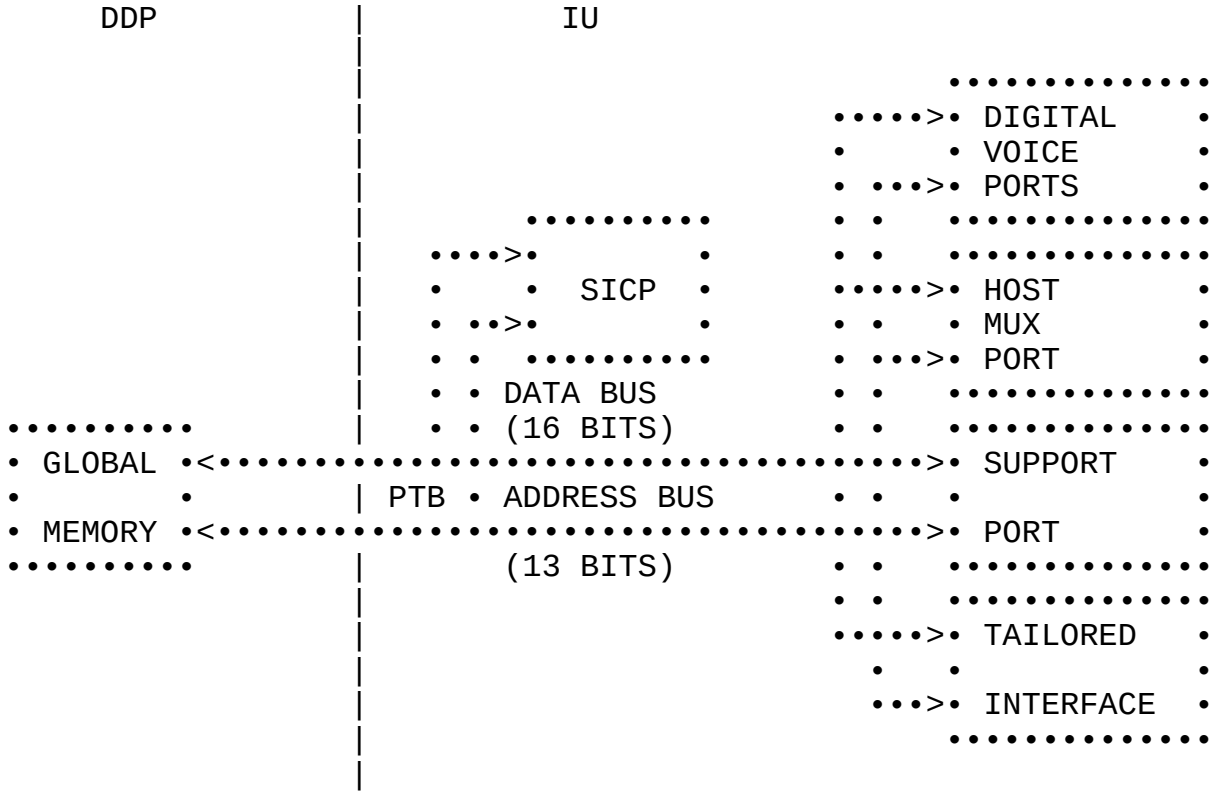

FIGURE XI-I. MCE INTERFACE UNIT FUNCTIONAL INTERFACE BLOCK DIAGRAM

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
wd 1	15															0
wd 2	31															16
wd 3	47															32
wd 4	63															48
wd 5	79															64
wd 6	95															80
wd 7	111															96
wd 8	127															112
wd 9	143															128
wd 10	159															144
wd 11	175															160
wd 12	191															176
wd 13	207															192
wd 14	223															208
wd 15	239															224
wd 16	255															240
wd 17	271															256
wd 18	287															272
wd 19	303															288
wd 20	319															304
wd 21	335															320
wd 22	351															336
wd 23	367															352
wd 24	383															368
wd 25	399															384
wd 26	415															400
wd 27	431															416
wd 28	447															432
wd 29															449	448

BIT 0 IS THE 1ST BIT OF DIGITAL VOICE MESSAGE
BIT 449 IS THE LAST BIT OF DIGITAL VOICE MESSAGE

FIGURE XI-II. 450 BIT DIGITAL VOICE BUFFER

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
wd 1	15															0
wd 2	31															16
wd 3	47						BLOCK 1									32
wd 4	63															48
wd 5	79							72	71							64
wd 6	95															80
wd 7	111						BLOCK 2									96
wd 8	127															112
wd 9	143															128
wd 10	159							152	151							144
wd 11	175															160
wd 12	191						BLOCK 3									176
wd 13	207															192
wd 14	223															208
wd 15																224

BIT 224 IS THE LAST BIT OF DIGITAL VOICE MESSAGE

FIGURE XI-III. 225 BIT DIGITAL VOICE BUFFER

The bit designation shall be as follows for Voice Port 1:

VOICE PORT 1 — ADDRESS ENCODE (TRANSMIT)

BIT	DESIGNATION
0-10	11 BITS OF ENCODE BUFFER STARTING ADDRESS (11 LSBS OF 13 BIT GM ADDRESS - 2 MSBS FIXED AS ZERO ADDRESS LOCATIONS 0080_{16} AND 0081_{16}
11-13	NOT USED
14	BUFFER LENGTH BIT (BLB)/PUSH-TO-TALK (PTT) FOR BLB: (VALID WHEN BIT 15 = 1) LOGIC 1 = BUFFER IS 450 BITS (29 WORDS) LOGIC 0 = BUFFER IS 225 BITS (15 WORDS) FOR PTT: (VALID WHEN BIT 15 = 0) LOGIC 1 = PTT IS PRESENT (ADDITIONAL BUFFER IS TO BE FILLED)
15	BUFFER STATUS BIT LOGIC 0 = BUFFER HAS BEEN FILLED LOGIC 1 = BUFFER ADDRESS IS VALID

VOICE PORT 1 — ADDRESS DECODE (RECEIVE)

BIT	DESIGNATION
0-10	11 BITS OF DECODE BUFFER STARTING ADDRESS (11 LSBS OF 13 BIT GM ADDRESS - 2 MSBS FIXED AS ZERO) ADDRESS LOCATIONS 0082_{16} AND 0083_{16}

BIT DESIGNATION (CONTINUED)

11-13 BLOCK VALIDITY (225-BIT CODED VOICE ONLY)

I	J	K	BLOCK 1 VALID	BLOCK 2 VALID	BLOCK 3 VALID
0	0	0	NO	NO	NO
0	0	1	NO	NO	YES
0	1	0	NO	YES	NO
0	1	1	NO	YES	YES
1	0	0	YES	NO	NO
1	0	1	YES	NO	YES
1	1	0	YES	YES	NO
1	1	1	YES	YES	YES

BLOCK VALIDITY (450-BIT)

I	J	K	BLOCK 1 VALID	BLOCK 2 VALID	BLOCK 3 VALID
0	NOT USED		NOT VALID		
1			VALID		

BIT DESIGNATION

14 BUFFER LENGTH BIT (BLB)
LOGIC 1 = BUFFER IS 450 BITS (29 WORDS)
LOGIC 0 = BUFFER IS 225 BITS (15 WORDS)

15 BUFFER STATUS BIT
LOGIC 1 = BUFFER HAS BEEN FILLED (RECEIVED DATA AVAILABLE)
LOGIC 0 = BUFFER EMPTY (NO RECEIVED DATA AVAILABLE)

The bit designation shall be as follows for Voice Port 2:

VOICE PORT 2 — ADDRESS ENCODE (TRANSMIT)

BIT	DESIGNATION
0-10	11 BITS OF ENCODE BUFFER STARTING ADDRESS (11 LSBS OF 13 BIT GM ADDRESS - 2 MSBS FIXED AS ZERO ADDRESS LOCATIONS 0084_{16} AND 0085_{16}
11-13	NOT USED
14	BUFFER LENGTH BIT (BLB)/PUSH-TO-TALK (PTT) FOR BLB: (VALID WHEN BIT 15 = 1) LOGIC 1 = BUFFER IS 450 BITS (29 WORDS) LOGIC 0 = BUFFER IS 225 BITS (15 WORDS) FOR PTT: (VALID WHEN BIT 15 = 0) LOGIC 1 = PTT IS PRESENT (ADDITIONAL BUFFER IS TO BE FILLED)
15	BUFFER STATUS BIT LOGIC 0 = BUFFER HAS BEEN FILLED LOGIC 1 = BUFFER ADDRESS IS VALID

VOICE PORT 2 — ADDRESS DECODE (RECEIVE)

BIT	DESIGNATION
0-10	11 BITS OF DECODE BUFFER STARTING ADDRESS (11 LSBS OF 13 BIT GM ADDRESS - 2 MSBS FIXED AS ZERO) ADDRESS LOCATIONS 0086_{16} AND 0087_{16}

BIT DESIGNATION (CONTINUED)

11-13 BLOCK VALIDITY (225-BIT CODED VOICE ONLY)

I	J	K	BLOCK 1 VALID	BLOCK 2 VALID	BLOCK 3 VALID
0	0	0	NO	NO	NO
0	0	1	NO	NO	YES
0	1	0	NO	YES	NO
0	1	1	NO	YES	YES
1	0	0	YES	NO	NO
1	0	1	YES	NO	YES
1	1	0	YES	YES	NO
1	1	1	YES	YES	YES

BLOCK VALIDITY (450-BIT)

I	J	K	BLOCK 1 VALID	BLOCK 2 VALID	BLOCK 3 VALID
0	NOT USED		NOT VALID		
1			VALID		

BIT DESIGNATION

14 BUFFER LENGTH BIT (BLB)
LOGIC 1 = BUFFER IS 450 BITS (29 WORDS)
LOGIC 0 = BUFFER IS 225 BITS (15 WORDS)

15 BUFFER STATUS BIT
LOGIC 1 = BUFFER HAS BEEN FILLED (RECEIVED DATA AVAILABLE)
LOGIC 0 = BUFFER EMPTY (NO RECEIVED DATA AVAILABLE)

110.1.1.2.1 Digital MUX Voice Message Transmission. The SICP, prior to setting the Port Access Bit to logic 1 (refer to 3.2.2) shall set the status bit in all the digital port starting address words to zero (refer to 50.1.1). When the SICP is read to accept digital voice transmissions, it shall set the encode starting address status bits to a logic 1. The SICP shall also set the buffer length bit corresponding to the designated buffer length (logic 1 for 450 bit non-error coded messages, logic 0 for 225 bit Reed-Solomon coded messages) and the buffer address pointers.

110.1.1.2.1.1 Digital Voice Port Operation. The Digital Voice Port shall, upon receipt of a Push-to-Talk (PTT) command, obtain from Global Memory the encoded starting address word A. If the status bit is set to logic 1, then the Digital Voice Port shall start loading the "A" encode buffer. Digital Voice Port 1 and 2 shall check the buffer length bit (bit 14) in order to determine the length of the buffer. After the encode "A" buffer has been filled, the Digital Voice Port shall se the encode "A" status bit (bit 15) to logic 0. This shall indicate to the SICP that buffer "A" has been filled and that the digital voice message is ready for transmission. In addition, the voice port shall set the PTT (bit 14) to logic 1 if the PTT is still present. During the process of setting bits 14 and 15, the remaining 14 bits of the starting address word may be altered by the Digital Voice Port. The SICP, upon reading the filled encode buffer, shall set the status bit of the encode starting address word to logic 1 in addition to loading the starting address of the new "A" encode buffer. The SICP shall also set the buffer length bit to the appropriate state.

110.1.1.2.1.2 PTT Command Removal. If the PTT command is still present upon completion of filling buffer A, the Digital Voice Port shall set the PTT bit (bit 14) of the encode starting address word to logic 1 and then obtain from Global Memory the starting address location for the "B" encode buffer. The Voice Port shall then fill buffer "B" with the digital voice bit stream information in the same manner as buffer "A". Upon completing the fill of buffer "B" and if the PTT Command is still present, the process shall be repeated using buffer A. This process shall continue until the PTT Command is removed. The digital Voice Port shall then switch over to the digital voice reception routine.

110.1.1.2.2 Digital Voice Message Reception. The SICP, upon receipt of a Digital Voice Message from the NICP, shall store the received message in the "C" decode digital voice buffer. The SICP shall then set the buffer status bit (bit 15 of the "C: decode buffer starting address word) to logic 1. The SICP shall also set the buffer length bit (bit 14) corresponding to the designated buffer length (logic 1 for 450 bit non-error coded message, logic 0 for 225 bit Reed-Solomon coded messages). When received coded voice messages, the SICP shall also set the block validity bits (bits 11 through 13) of Voice Port decode buffer starting address word based upon the state of the received digital voice message block decode fail bits as specified in 50.1.1. If a packed-2

Digital Voice Message has been received, the SICP shall store the first part of the message in the "C" buffer and the second part in the "D" buffer. For a packed-4 message the SICP shall alternate between the "C" and "D" decode buffers when storing the four parts of this message. If no PTT command is being received, the Digital Voice Port shall obtain from Global Memory the "C" buffer starting address. The Digital Voice Port shall check the buffer status bit. If the buffer status bit is set to logic 1, then the received message is located in the "C" buffer. If the buffer status bit is set to logic 0, then no digital voice message is available for decoding. In this case, the silence pattern shall be decoded. When a valid buffer of digital voice data is available, the Digital Voice Port shall retrieve the message word-by-word from Global Memory, and shall serially decode the message. After a buffer of digital voice data has been read, the Digital Voice Port shall reset the appropriate decode starting address status bit to logic 0, which indicates tot he SICP that the buffer may be reloaded. During the decoding of the last full word in the buffer, the starting address word for decode buffer "D" shall be checked by the Digital Voice Port to see if another buffer of voice data is available. Buffers of data shall be decoded alternately (C, D, C, D...) until no data is available or the PTT command changes to a logic 1. When decoding 225-bit digital voice messages, Digital Voice Port shall set the data valid/invalid discrete to indicate valid data during the first 72 bits of the buffer if bit I = logic 1, during the second 80 bits if bit J = logic 1 and during the final 73 bits if bit K = logic 1. Whenever bits I, J, or K are at logic 0, the discrete output shall be set to valid in a silence pattern, CVSD, and LPC-10 non-error-coded messages.

110.1.1.2.3 Voice Port Test/Memory Words. The SICP shall provide two words in Global Memory which shall be used to verify that Voice Ports 1 and 2 are operational. At power turn on, each voice port will do a DMA test using the Voice Port 1 and Voice Port 2 test/mailbox words. After the DMA test is performed the Voice Port 1 and Voice Port 2 test/mailbox words will be used for mailbox tests where each Voice Port shall write its corresponding Voice Port Test Word consisting of a bit pattern of $AAAA_{16}$ into Global Memory every 100 slots (approximately 700 milliseconds). These words shall be read by the SICP (approximately every 200 slots) and shall be set to zero by the SICP after being read. The format of the Voice Port Test Words shall be as follows:

MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0	ADDRESS LOCATION
VOICE PORT 1 TEST/MAILBOX WORD																$00B5_{16}$
VOICE PORT 1 TEST/MAILBOX WORD																$00B6_{16}$

The bit designation shall be as follows:

BIT	DESIGNATION
0-15	ADDRESS LOCATION $00B5_{16}$ SET TO $AAAA_{16}$ BY VOICE PORT 1, SET TO 0000_{16} BY SICP
0-15	ADDRESS LOCATION $00B6_{16}$ SET TO $AAAA_{16}$ BY VOICE PORT 2, SET TO 0000_{16} BY SICP

110.1.1.2.4 Digital Voice Port Mode Select Discrete Word. The Digital Voice Port shall read the Mode Select Discrete Word. This word is provided by the SICP data at a rate of 10 per second (every 100 milliseconds) to indicate the mode for channel operation.

MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0	ADDRESS LOCATION
												VRS2		VRS1		0091_{16}

The bit designation shall be as follows:

BIT	DESIGNATION
0-1	VOICE RATE SELECT CHANNEL 1 BITS 1 • 0 ••••••• 0 • 0 2.4 KbpsH 0 • 1 2.4 KbpsH 1 • 0 2.4 KbpsH 1 • 1 16 Kbps
2-3	VOICE RATE SELECT CHANNEL 2 BITS 1 • 0 ••••••• 0 • 0 2.4 KbpsH 0 • 1 2.4 KbpsH 1 • 0 2.4 KbpsH 1 • 1 16 Kbps
4-15	NOT USED

H ANY OF THE THREE VALUES SHOWN CAN BE USED FOR 2.4 Kbps.

110.1.1.2.5 BIT Status. The Digital Voice Port shall write the Voice BIT word into Global Memory upon completion of Digital Voice Port Power-on BIT test and after each completion of ongoing BIT tests. The following is the Voice BIT word:

MSB LSB

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	ADDRESS LOCATION 0088_{16}
	GMWR FL	RAM FAIL	EPROM FL	VPO BIT				VIO2 FL	PTT2 FL	CVSD CK2 FL	LPC CK2 FL	UIO1 FL	PTT1 FL	CVSD CK1 FL	LPC CK1 FL	

The bit designation shall be as follows:

BIT	DESIGNATION
0	CHANNEL 1 LPC CLOCK FAIL (LPC CK1 FL) LOGIC 0 = PASS LOGIC 1 = FAIL
1	CHANNEL 1 DVSD CLOCK FAIL (CVSD CK1 FL) LOGIC 0 = PASS LOGIC 1 = FAIL
2	CHANNEL 1 CH1DV TO PTT70 WRAP TEST FAIL (PTT1 FL) LOGIC 0 = PASS LOGIC 1 = FAIL
3	CHANNEL 1 VOICE SERIAL INPUT/OUTPUT FAIL (VIO1 FL) LOGIC 0 = PASS LOGIC 1 = FAIL
4	CHANNEL 2 LPC CLOCK FAIL (LPC CK2 FL) LOGIC 0 = PASS LOGIC 1 = FAIL
5	CHANNEL 1 CVSD CLOCK FAIL (CVSD CK2 FL) LOGIC 0 = PASS LOGIC 1 = FAIL

BIT	DESIGNATION
6	CHANNEL 2 CH2DV TO PTT80 WRAP TEST FAIL (PTT2 FL) LOGIC 0 = PASS LOGIC 1 = FAIL
7	CHANNEL 2 VOICE SERIAL INPUT/OUTPUT FAIL (VIO2 FL) LOGIC 0 = PASS LOGIC 1 = FAIL
8-10	NOT USED
11	VOICE POWER-ON BIT (VPO BIT) LOGIC 0 = PASS LOGIC 1 = FAIL
12	ROM CHECKSUM FAIL (EPROM FL) LOGIC 0 = PASS LOGIC 1 = FAIL
13	RAM TEST FAIL (RAM FAIL) LOGIC 0 = PASS LOGIC 1 = FAIL
14	CHANNEL 1 LPC CLOCK FAIL (LPC CK1 FL) LOGIC 0 = PASS LOGIC 1 = FAIL
15	SPARE

110.1.1.3 1553 MUX Bus Port Interface. The data transfer between the IU and the Host shall be accomplished via a MIL-STD-1553 Multiplex (MUX) bus. The IU interface between Global Memory and the MIL-STD-1553 MUX bus, is herein called the IU MUX port. The IU MUX shall provide the Remote Terminal (RT) function. The Bus Controller (BC) function will be performed by the Host. The IU MUX port shall interface Global Memory via the PTB.

110.1.1.3.1 IU MUX Receive/Transmit Operation. The following blocks of memory shall be provided for use by the IU MUX port when transferring data to and from Global Memory:

a. 32 Received Data Buffer Starting Address Location Words

b. 32 Receive Message Status/Validity Words

c. Receive Data Buffers (up to 32 words per buffer)

d. 32 Transmit Data Buffer Starting Address Location Words

e. Transmit Data Buffers (up to 32 words per buffer)

The Receive Data buffers contain messages sent from the Host to the IU, called Terminal Input Messages (TIMs). The Transmit Data Buffers contain messages to be sent from the IU to the Host, called Terminal Output Messages (TOMs).

110.1.1.3.1.1 Starting Addresses. 32 Receive Data Buffer Starting addresses and 32 Transmit Data Buffer Starting addresses shall be stored in a table of 64 contiguous locations in Global Memory called the Receive/Transmit Data Buffer Starting Address Table (Table XI-III). This table begins at location ND = 0000_{16}. The first 32 locations are reserved for the Receive Data Buffer starting addresses and the second 32 locations are reserved for the Transmit Data Buffer starting addresses. These buffer starting addresses are provided for all the possible command word subaddresses. The IU MUX shall access these addresses by using the combined value of the Transmit/Receive (T/R) bit and subaddress its in the command word as a displacement from the starting location of Table XI-III, as discussed in 110.1.1.3.1.3 and 110.1.1.3.1.4.

110.1.1.3.1.2 Receive Message Status/Validity Words. The Receive Message Status/Validity words are provided in 32 locations in Global Memory, as shown in Table XI-IV. These words contain validity information about received messages. The 32 receive Message Status/Validity words provide for each of the possible received messages according to the subaddress field in the receive command word. The IU MUX shall access the received Message Status/Validity Word in Table XI-IV corresponding to the received message by using the value of the subaddress in the command word as a displacement from the starting location of Table XI-IV, as discussed in 110.1.1.3.1.3. The starting location of Table XI-IV in Global Memory is NC = 0100_{16}. The IU MUX shall inform the SICP when a received message is stored in a Receive Data Buffer by using the corresponding Receive Message Status/Validity word in Table XI-IV. After reading the contents of the Receive Buffer, the SICP shall set he buffer status in the Receive Message Status/Validity word to $FF))_{16}$. See 110.1.1.3.1.3 for Received Message Status/Validity Word implementation during IU MUX Receive Mode operation.

110.1.1.3.1.3 IU MUX Receive Mode Operation. Upon receipt of a valid receive command word from the MUX Bus Controller (BC), the IU MUX port shall store the associated message received into a buffer (Receive Data Buffer) in Global Memory for the SICP to read, and shall set the Receive Message Status/Validity Word corresponding to that received message. The starting address of the Receive Data Buffer in which the received message will be stored shall be obtained in a 64-word table of starting addresses called the Receive/Transmit Data Buffer Starting Address Table (Table XI-III). The word in Table XI-III containing the appropriate starting address is determined by concatenating the T/R bit (0 for receive buffers, 1 for transmit buffers) of the command word with the 5-bit subaddress field of the command word, and then adding this number (Transmit/Receive bit and Subaddress, TRSA) to the starting address (ND) of Table XI-III. The number obtained by the addition (TSRA +

TABLE XI-III

RECEIVE/TRANSMIT DATA BUFFER STARTING ADDRESS TABLE

STARTING ADDRESS		
ND + 0	MODE CODE	NOT USED
ND + 1 : ND + 30	RECEIVE DATA POINTER - SA01 : RECEIVE DATA POINTER - SA30	RECEIVE DATA BUFFER POINTERS
ND + 31	MODE CODE	NOT USED
ND + 32	MODE CODE	NOT USED
ND + 33 : ND + 61	TRANSMIT DATA POINTER - SA01 : TRANSMIT DATA POINTER - SA30	TRANSMIT DATA BUFFER POINTERS
ND + 63	MODE CODE	NOT USED

NOTE: 1) ND = 0000_{16}
2) TRSA RANGE IS FROM 0 TO 63

ND) is the word number of Table XI-III containing the starting address of the Received Data Buffer to be used. (NOTE: The concatenation procedure described above is used to add either zero (for T/R = 0) or 32 (for T/R = 1) to the subaddress bits in the command word so that the first 32 words of Table XI-III would be used by the IU MUX for the Receive Data Buffer Starting addresses and the second 32 words of Table XI-III would be used for the Transmit Data Buffer Starting addresses.) Before the IU MUX stores the received data into the Receive Data Buffer, the IU MUX shall write $FFFF_{16}$ into a Receive Message Status/Validity Word of Table XI-IV which corresponds to the received message. The appropriate word in Table XI-IV is determined by adding the 5-bit subaddress (a number ranging from 0 to 31) of the command word to the starting address (NC = 0100_{16}) of Table XI-IV. After all the receive data words are written into the Receive Data Buffer, the IU MUX will transmit a status word to the BC. If the data was received error free, then the IU MUX will write the contents of the command word into the corresponding Receive Message Status/Validity Word. If a data block reception error is detected, the IU MUX shall set the Receive Message Status/Validity Word to $FF00_{16}$. The SICP shall read the Receive Message Status/Validity Word prior to reading the Receive Data Buffer. When an $FFFF_{16}$ is read (IU MUX is currently updating the Receive Data Buffer), the SICP shall not attempt to read the Receive Data Buffer. If an $FF00_{16}$ is read, the data was received in error and the data should not be used. If a valid command word is read in the Receive Message Status/Validity Word, the SICP shall read the Receive Data Buffer, and then shall set the Receive Message Status/Validity Word to $FF00_{16}$.

110.1.1.3.1.4 IU MUX Transmit Mode Operation. In the transmit mode, Terminal Output Messages (TOMs) are sent from the IU to the Host. When it is required of the Terminal to update the Transmit Data Buffers in Global Memory (currently in SICP local memory), the Host will send a receive command (via a TIM 29) to the IU MUX. TIM 29, which is one word of all zeroes, is used to tell the IU to update the Transmit Data Buffers. Upon receipt of a TIM 29, the IU MUX shall generate a MUX Data Transfer Complete Interrupt (MDTCI) to the SICP. Upon receipt of an MDTCI, the SICP shall update the Transmit Data Buffers in Global Memory with the current TOMs within
10 milliseconds. The IU MUX will not access the Global Memory Transmit Data Buffers for a minimum of 10 milliseconds after an MDTCI, to give the SICP enough time to update the Transmit Data Buffers. These buffers are updated to prepare for the next Host request for TOMs. The Global Memory starting addresses of the Transmit data Buffers are contained in words 33 through 64 of Table XI-III. The IU MUX will not process transmit commands received by the Host BC for TOMs until at least 10 milliseconds after the last MDTCI was generated. Upon receipt of a valid transmit command, the IU MUX will obtain the Transmit Data Buffer starting address corresponding to the command word subaddress. The address, which is contained in one of the words in Table XI-III, is determined by concatenating the T/R bit (0 for receive buffers, 1 for transmit

TABLE XI-IV

RECEIVE MESSAGE STATUS/VALIDITY WORDS

STARTING ADDRESS		
NC + 0	MODE CODE	NOT USED
NC + 1 : NC + 30	RECEIVE MESSAGE VALIDITY - SA01 : RECEIVE MESSAGE VALIDITY - SA30	
NC + 31	MODE CODE	NOT USED

NOTE: 1) NC = 0000_{16}
2) STATUS/VALIDITY WORD VALUES

$FFFF_{16}$ INDICATES RECEPTION IN PROGRESS
$FF00_{16}$ INDICATES INVALID RECEIVE TRANSACTION
COMMAND WORD INDICATES VALID RECEIVE TRANSACTION COMPLETE

buffers) of the word with the 5-bit subaddress field of the command word, and then adding this number (Transmit/Receive bit and subaddress, TRSA) to the starting address (ND) of Table XI-III. The contents of the word (TRSA+ND) found in Table XI-III is the starting location of the Transmit Data Buffer. (NOTE: The concatenation procedure described above is used to add either 0 (for T/R = 0) or 32 (for T/R = 1) to the subaddress of the command word so that the first 32 words of Table XI-III would be used by the IU MUX for Receive Data Buffer Starting addresses and the second 32 words would be used Transmit Data Buffer Starting Addresses). The IU MUX will then proceed to read and transmit the TOMs requested by the Host. After reading all the IU transmit data, the Host will send another TIM 29 to start the next MUX cycle. A MUX cycle is defined to be the interval in time between TIM 29s sent by the Host. During the MUX cycle (as the TIM 29 is received), the IU MUX shall generate an MDTCI to the SICP, the SICP shall then update all the Transmit Data Buffers, the Host will send a transmit command to the SICP for updated TOMs, and finally the IU MUX will transmit the TOMs to the Host. NOTE: In order to provide enough time for the processing stated above, the Host should not send TIM 29s closer than 20 milliseconds apart.

110.1.1.3.2 MUX Direct Memory Access (DMA). The MUX DMA test word is a location reserved for the MUX hardware to verify its ability to perform DMA transactions to and from Global Memory. The MUX DMA test word location is $008A_{16}$.

110.1.1.3.3 MUX BIT Word. The MUX BIT word contains the results of the MUX Self-Test BIT. The MUX BIT word location is $008C_{16}$. If the test passes, $XX00_{16}$ will be written into the MUX BIT word. If the test fails, a non-zero number will be written into the MUX BIT word. Since certain failures may prevent the MUX from writing to the MUX BIT word, the SICP shall set the MUX BIT word to the "fail" state (non-zero number) prior to enabling the MUX Self-Test BIT. The MUX will write to the MUX BIT word only upon completion of Self-Test BIT. The following is a list of the numbers which may be written into the MUX BIT word by the MUX hardware:

BIT Word Value (HEX)	Definition
0000	Pass
0001	HIC Internal Test Fail
0002	HIC PROM checksum fail
0003	IOC PROM checksum fail
0004	IOC internal test fail
0005	Wrap-around test fail
0006	External logic test fail
0007	DMA handshake fail
0008	DMA test fail

110.1.1.3.4 MUX Mailbox Words. The MUX hardware will write $AAAA_{16}$ into Mailbox word 1 and 5555_{16} into MUX Mailbox word 2 at the completion of processing a command received over the MIL-STD-1553 MUX bus and once every 40 to 60 milliseconds while the MUX remains idle, i.e., no commands are received over the MIL-STD-1553 MUX bus. The location of the Mailbox word 1 is $008D_{16}$ and the location of Mailbox word 2 is $008E_{16}$. The SICP shall read and clear the MUX mailbox word once every 100 milliseconds. If any value is incorrect for two consecutive times, the SICP will declare a MUX fail in Status Block 8, Word 8, Bit 5. If both values pass at least once, this source of the MCE MUX fail (Status Block 8, Word 8, Bit 5) is cleared by the SICP.

110.1.1.3.5 MUX Firmware Version Word #1. At Power turn-on, the MUX will write a number to indicate the version of the firmware contained in U12. The number written to this location will be the programmed part number in BCD. The MUX Firmware Version Word #1 location is $01FE_{16}$.

110.1.1.3.6 MUX Firmware Version Word #2. At Power turn-on, the MUX will write a number to indicate the version of the firmware contained in U9. The number written to this location will be the programmed part dash number in BCD. The MUX Firmware Version Word #2 location is $01FF_{16}$.

110.1.1.4 Tailored I/O Interface. The Tailored I/O Interface shall provide the interface between the SICP and the IU BIT Functions. The interface with Global Memory shall be via the Plain Text Bus. The following Tailored I/O Data Word interfaces shall be provided in Global Memory.

a. Input Discrete Words

b. Output Discrete Words

The Tailored I/O Function shall write these words into Global Memory at a rate of 10 times/second (every 100 milliseconds). In addition, the Tailored I/O shall write the following group of words into Global Memory when performing SRU BIT fault isolation.

a. Input BIT word 1

b. Input BIT word 2

c. Input BIT word 3

d. Input BIT word 4

e. Input BIT word 5

f. BIT summary word

g. 2 Spares

110.1.1.4.1 Input Word.

MSB LSB

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	ADDRESS LOCATION 0094_{16}
RESERVED																

110.1.1.4.2 Input Status Discrete Word 1. The format of the input Status Discrete Word 1 shall be as follows:

MSB LSB

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	ADDRESS LOCATION 0095_{16}
OSC G	PLL G	BIT B	HPAPF	R/T G	M4EN	HPA G	SRU		BST 1	BIT R	TODS	MUX G	V2 G	V1 G	MUX G	

The bit designation shall be as follows:

BIT	DESIGNATION
0	LOGIC 1 = MUX GOOD (MUX G)
1	LOGIC 1 = VOICE 1 GOOD (V1G)
2	LOGIC 1 = VOICE 2 GOOD (V2G)
3	LOGIC 1 = MUX GOOD (MUX G)
4	LOGIC 1 = TAILORED I/O OUTPUT DRIVER STATUS (TODS)
5	LOGIC 1 = R SUPPLY GOOD (BIT R)
6	LOGIC 1 = NICAD BATTERY GOOD (BST1)
7	SPARE
8	SRU BIT INITIATE WRAPAROUND (SRU) LOGIC 1 = SRU BIT
9	LOGIC 1 = HPA GOOD (HPAG)
10	LOGIC 1 = MODE 4 ENABLE (M4EN)
11	LOGIC 1 = R/T TDMA GOOD (R/T G)
12	LOGIC 1 = HPA POWER FAIL (HPAPF)
13	LOGIC 1 = B SUPPLY GOOD (BIT B)
14	LOGIC 1 = PLL FREQUENCY GOOD (PLL G)
15	LOGIC 1 = OSCILLATOR GOOD (OSC G)

110.1.1.4.3 Input Discrete Word 2 (Tailored Interface). The format of the input status discrete word 2 shall be as follows:

MSB LSB

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	ADDRESS LOCATION 0096_{16}
TAILORED INTERFACE TEST WORD																

The bit designation shall be as follows:

BIT	DESIGNATION
0-15	TAILORED INTERFACE TEST WORD DATA PATTERN = $AAAA_{16}$

NOTE: The SRU BIT circuitry will write a data pattern of $AAAA_{16}$ into the Test Word every slot. The SICP will reset this word to 0000_{16} once every 200 milliseconds.

110.1.1.4.4 Input Status Discrete Words. Not Used

MSB LSB

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	ADDRESS LOCATION 0097_{16}
NOT USED																

110.1.1.4.5 Input BIT Words. The format of Input BIT Words shall be as follows:

MSB LSB

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	ADDRESS LOCATION
33RD WORD (LSH)																0098_{16}
33RD WORD (MSH)																0099_{16}
41ST WORD (LSH)																$009A_{16}$
41ST WORD (MSH)																$009B_{16}$
3-Mhz PULSE COUNT WORD																$009C_{16}$

The bit designation shall be as follows:

WORD	DESIGNATION
33RD	TRANSMIT TIMING AND CONTROL WORD (LSH) SET TO $4B9F_{16}$ BY TAILORED INTERFACE PORT DURING SRU BIT.
33RD	TRANSMIT TIMING AND CONTROL WORD (MSH) SET TO $1BA8_{16}$ BY TAILORED INTERFACE PORT DURING SRU BIT.
41ST	TRANSMIT TIMING AND CONTROL WORD (LSH) SET TO $84B9_{16}$ BY TAILORED INTERFACE PORT DURING SRU BIT.
41ST	TRANSMIT TIMING AND CONTROL WORD (MSH) SET TO $71BA_{16}$ BY TAILORED INTERFACE PORT DURING SRU BIT.
3-Mhz	3-MHz PULSE COUNT WORD 16 BITS OF 3 MHZ PULSE COUNT

110.1.1.4.6 BIT Summary Word. The format of the BIT Summary Word shall be as follows:

MSB LSB

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	ADDRESS LOCATION $009D_{16}$
CTPIW	PTPIW			MOD#2	MOD#1	PTBO#2	PTBO#1	EOS G	R/TFW	DDPFW	IUFW	CFL#4	CFL#3	CFL#2	CFL#1	

The bit designation shall be as follows:

BIT	DESIGNATION
0	LOGIC 1 = CFLTI SAMPLE GOOD (DURING CTP & RSED) NO 1
1	LOGIC 1 = CFLTI SAMPLE GOOD (DURING CTP & RSED) NO 2
2	LOGIC 1 = CFLTI SAMPLE GOOD (DURING CTP & RSED) NO 3
3	LOGIC 1 = CFLTI SAMPLE GOOD (DURING CTP & RSED) NO 4
4	IU FAIL INDICATOR WRAPAROUND
5	DDP FAIL INDICATOR WRAPAROUND
6	R/T FAIL INDICATOR WRAPAROUND
7	LOGIC 1 = EOS FALLS WITHIN WINDOW (EOS G)
8	LOGIC 1 = PTBO SAMPLE GOOD (DURING PTP TEST) NO 1
9	LOGIC 1 = PTBO SAMPLE GOOD (AFTER PTP TEST) NO 2
10	LOGIC 1 = MOD BIT SAMPLE GOOD (DURING 41ST DATA) NO 1
11	LOGIC 1 = MOD BIT SAMPLE GOOD (DURING 41ST GAP) NO 2
12-13	NOT USED
14	PTP TEST INIT WRAPAROUND
15	CTP TEST INIT WRAPAROUND

110.1.1.4.7 Spare Input BIT Words. (Reserved)

MSB															LSB	
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	ADDRESS LOCATION
RESERVED																$009E_{16}$
RESERVED																$009F_{16}$

110.1.1.4.8 Tailored Interface Output Words. The following group of Tailored Interface Output Words shall be provided by the SICP and shall be read by the Tailored Interface port approximately every 100 milliseconds.

a. Output status discrete word 1 (Address Location 0090_{16})

b. Digital Voice Port Mode Select Discrete Word (for Address location 0091_{16}, see 110.1.1.2.4)

c. Output status discrete word 2 (Spare) (Address location 0092_{16})

d. Mask word (Address location 0093_{16})

These words shall be stored in contiguous locations in Global Memory. The starting location shall be 0090_{16}.

110.1.1.4.8.1 Output Status Discrete Word 1. The format of the Tailored Interface Output Status Discrete Word 1 shall be as follows:

MSB LSB

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	ADDRESS LOCATION 0090_{16}
CTPINIT	PTPINIT	VTEST	MXSTRT	RESERVED	RESERVED	BIDEN	SRUBITINIT	HPAF	RTF	DDPF	IUF	SUPDIS	SPARE	SICPF	PAB	

The bit designation shall be as follows:

BIT	DESIGNATION
0	PORT ACCESS BIT (PAB) LOGIC 1 = GM POINTERS ARE VALID LOGIC 0 = GM POINTERS NOT VALID (DO NOT ACCESS GM)
1	SICP FAIL H (SICP F) LOGIC 1 = SICP FAIL
2	SPARE
3	SUPPRESSION DISABLE I (SUPDIS) LOGIC 1 = SUP DISABLE
4	INTERFACE UNIT FAIL (IUF) LOGIC 1 = IU FAIL
5	DIGITAL DATA PROCESSOR FAIL (DDPF) LOGIC 1 = DDP FAIL
6	RECEIVER TRANSMITTER UNIT FAIL (RTF) LOGIC 1 = R/T FAIL
7	HIGH POWER AMPLIFIER FAIL (HPAF) LOGIC 1 = HPA FAIL
8	LOGIC 1 = SRU BIT INITIATE
9	BIT FAIL ID DISABLE HH (BIDEN) LOGIC 1 = BIT FAIL ID DISABLE

BIT	DESIGNATION (CONTINUED)
10-11	RESERVED
12	MUX SELF TEST INITIATE (MXSTRT) LOGIC 1 = MUX SELF TEST INITIATE
13	VOICE TEST INITIATE (VTEST) LOGIC 1 = VOICE TEST INITIATE
14	LOGIC 1 = PTP TEST INITIATE
15	LOGIC 1 = CTP TEST INITIATE

H SET TO LOGIC 1 BY NICP TO INDICATE SICP FAIL WHEN SICP HAS FAILED ITS MAILBOX TEST. NICP WRITES 0017_{16} INTO 0090_{16}.

I LOGIC 1 = INHIBIT IPF SUPPRESSION INPUT DURING LRU AND SRU BIT.

HH ENABLE BIT FAIL ID WHEN TIMEOUT OF HOST MUX NO TRAFFIC. SICP SETS TO 0 UPON MUX NO TRAFFIC TIMEOUT OR NICP SETS TO 0 (WRITES 0017_{16} PATTERN INTO 0090_{16}) IF SICP FAILS ITS MAILBOX TEST TO ENABLE BIT FAIL ID.

110.1.1.4.8.2 Output Discrete Word 2. This word is being used as a Digital Voice Port Mode Select Discrete word. See 110.1.1.2.4.

MSB															LSB	
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	ADDRESS LOCATION 0091_{16}

110.1.1.4.8.3 Output Discrete Word 3. Not Used.

MSB															LSB	
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	ADDRESS LOCATION 0092_{16}

110.1.1.4.8.4 Output Status Discrete Word 4 (Mask Word). The format of the Tailored Interface Output Mask Word shall be as follows:

MSB LSB

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	ADDRESS LOCATION 0093_{16}
	ARYTEN		BD12			BD9			BD6							

The bit designation shall be as follows:

BIT	DESIGNATION
0	LOGIC 1 = MUX DISABLE (BD0)
1-5	SPARE
6	LOGIC 1 = PTP DISABLE (BD6)
7-8	SPARE
9	LOGIC 1 = CHRONOMETER DISABLE (DB9)
10-11	SPARE
12	LOGIC 1 = VOICE 1/2 DISABLE (BD12)
13	SPARE
14	LOGIC 1 = ENABLE ARY TEN
15	SPARE

110.1.1.5 Support Port Interface. The Terminal Support Port Interface shall b as specified in 50.1.3.

110.1.1.6 IU Micro Version Numbers. At power turn-on, reset, or a recycled Port Access Bit (PAB), the IU SRU Controller/Microprocessors will write their associated Firmware ID version number(s) into the appropriate location. The format shall be 16-bit BCD representation and in the following locations:

MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0	ADDRESS LOCATION
																$01F8_{16}$
																$01F9_{16}$
																$01FA_{16}$
																$01FB_{16}$
																$01FC_{16}$
VOICE I/O CONTROLLER VERSION ID																$01FD_{16}$
MUX IOC VERSION ID																$01FE_{16}$
MUX HIC VERSION ID																$01FF_{16}$

The bit designation shall be as follows:

BIT	DESIGNATION
0-15	ADDRESS LOCATIONS $01F8_{16}$ THROUGH $01FC_{16}$ ARE RESERVED FOR FUTURE USE
0-15	ADDRESS LOCATION $01FD_{16}$ - VOICE I/O CONTROLLER VERSION ID IN 16-BIT BCD
0-15	ADDRESS LOCATION $01FE_{16}$ - MUX IOC VERSION ID IN 16-BIT BCD (SEE 110.1.1.3.6)
0-15	ADDRESS LOCATION $01FF_{16}$ - MUX HIC VERSION ID IN 16-BIT BCD (SEE 110.1.1.3.7)

110.1.2 MCE Unique Initialization Data. This section contains changes, clarifications on implementation, and additions to initialization data against Appendix III for MCE. If words within an initialization data block or bits within a word have not changed from Appendix III, then those words or bits are not shown in this appendix. Initialization data words or bits in Appendix III which are "not used for MCE" are not shown in this appendix, with the exception of Cable Delay constants, which are shown for clarity on the implementation of cable delays. Block 56 was spare in Appendix III, but is used in this Appendix for MCE unique initialization data.

110.1.2.1 Initialization Data Block 0.

110.1.2.1.1 Platform Identifier. (Block 0, Word 4)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 4												PLATFORM IDENTIFIER				

The bit designation shall be as follows:

BIT	DESIGNATION
0-4	PLATFORM IDENTIFIER

BIT 4 • 3 • 2 • 1 • 0	
0 • 0 • 0 • 0 • 0	ILLEGAL
0 • 0 • 0 • 0 • 1	AIR FORCE
0 • 0 • 0 • 1 • 0	MARINES

ALL OTHER VALUES ARE SPARE

5-15	SPARE

NOTE: THIS FIELD IDENTIFIES INITIALIZATION DEFAULT SETS.

110.1.2.2 Initialization Data Block 1.

110.1.2.2.1 RF Mode Word. (Block 1, Word 3)

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
wd 3	NJRM	TEST		XMIT			RCV ANT CONF		HPAP	EOC		IPF OVER		RANGE	COMM MODE	

The bit designation shall be as follows:

BIT	DESIGNATION

0-1 COMMUNICATIONS MODE

BIT 1 • 0	
0 • 0	NOT USED
0 • 1	MODE 1 - (DEFAULT VALUE)
1 • 0	MODE 2
1 • 1	MODE 4 (FOR TEST PURPOSES ONLY)

NOTE: FOR MODE 4 TO BE ENABLED, COMMUNICATIONS MODE MUST BE SET TO "MODE 4" AND THE "COMMAND MODE 4" (LOCATED ON THE SLCU) DISCRETE MUST BE ENABLED.

5-6 EXCITER OUTPUT CONTROL (EOC)

BIT 6 • 5	
1 • 0 •	EXCITER OUTPUT OFF; R/T (200 WATTS) - (DEFAULT VALUE)
1 • 1	EXCITER OUTPUT J8-TDMA ONLY

THE OTHER VALUES ARE NOT USED FOR MCE

8-9 RECEIVE ANTENNA CONFIGURATION (RCV ANT CONF)

BIT 9 • 8	
0 • 0	DUAL ANTENNA - (DEFAULT VALUE)
0 • 1	OMNIDIRECTIONAL ANTENNA A
1 • 0	DIRECTIONAL ANTENNA B
1 • 1	NOT USED

BIT	DESIGNATION

10-12 TRANSMISSION MODE (XMIT)

BIT 12	11	10	
0	0	1	NORMAL - (DEFAULT VALUE)
1	1	0	POLLING
1	0	0	DATA SILENT
1	0	1	RADIO SILENCE (RESERVED FOR THE SICP)
1	1	1	LONG TERM TRANSMIT INHIBIT (THIS IS CALLED HOT STANDBY FOR MCE AND IS SET BY SICP)

THE OTHER VALUES ARE NOT USED FOR MCE.

NOTE: THE SICP SHOULD NOT SEND A VALUE OF 5 TO THE NICP. VOICE SHOULD NOT BE TRANSMITTED DURING RADIO SILENT.

15 NORMAL/J8 RECEIVE MODE (NJRM)
LOGIC 0 = RECEIVE NORMAL - (DEFAULT VALUE)
LOGIC 1 = RECEIVE J8 - (NOT USED FOR MCE)

110.1.2.2.2 Terminal Function Word 1. (Block 1, Word 5)

MSB LSB

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
wd 5	RF LOOPBACK CONTROL			HPA OUTPUT LEVEL				R/T CONF		RFO	POOL	NTR	PR	NAV		

The bit designation shall be as follows:

BIT	DESIGNATION
7-8	R/T RECEIVER CONFIGURATION (R/T CONF)

BIT 8 • 7

1 • 0 EIGHT (8) RECEIVER CONFIGURATION
• - (DEFAULT VALUE)

THE OTHER VALUES ARE NOT USED BY MCE.

9 NOT USED BY MCE

10-12 HPA OUTPUT LEVEL

BIT 12 • 11 • 10

0 • 0 • 1 HPA HIGH POWER
0 • 1 • 0 HPA LOW POWER - (DEFAULT
• • VALUE)

THE OTHER VALUES ARE NOT USED BY MCE

13-15 RF LOOPBACK CONTROL

BIT 15 • 14 • 13	R/T MODE	DDP MODE
0 • 1 • 1	SINGLE	SINGLE

110.1.2.2.3 Terminal Function Word 3. (Block 1, Word 7)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 7							PATH	XMIT TYPE		STRENGTH				PLATFORM TYPE		

The bit designation shall be as follows:

BIT	DESIGNATION
0-2	PLATFORM TYPE

BIT 2 • 1 • 0

1 • 0 • 1 GROUND POINT - (DEFAULT VALUE)

ALL OTHER VALUES ARE NOT USED FOR MCE.

110.1.2.2.4 Transmit Delay Constants. (Block 1, Word 25)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 25									TXAAD							LSB

The bit designation shall be as follows:

BIT	DESIGNATION
0-7	TRANSMIT OMNIDIRECTIONAL ANTENNA A DELAY (TXAAD) LSB: 12.5 NANOSECONDS RANGE: 0 TO 3187.5 NANOSECONDS
8-15	TRANSMIT DIRECTIONAL ANTENNA B DELAY NOT USED FOR MCE

110.1.2.2.5 Cable Delay Antenna A. (Block 1, Word 28)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 28	CABLE DELAY R/T TO DDP								CABLE DELAY ANTENNA A							

The bit designation shall be as follows:

BIT	DESIGNATION
0-7	CABLE DELAY ANTENNA A NOT USED FOR MCE
8-15	CABLE DELAY R/T TO DDP (TRUNCATED TO 12.5 NANOSECONDS) LSB: 12.5 NANOSECONDS RANGE: 0 TO 3187.5 NANOSECONDS

110.1.2.2.6 Cable Delay Antenna B. (Block 1, Word 29)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 29									CABLE DELAY ANTENNA B							

The bit designation shall be as follows:

BIT	DESIGNATION
0-7	CABLE DELAY ANTENNA B NOT USED FOR MCE
8-15	NOT USED

110.1.2.2.7 Receive Cable Delay Constant. (Block 1, Word 30)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 30																

The bit designation shall be as follows:

BIT	DESIGNATION
0-15	NOT USED

110.1.2.2.8 Transmit Cable Delay Constant. (Block 1, Word 31)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 31																

The bit designation shall be as follows:

BIT	DESIGNATION
0-15	NOT USED

110.1.2.3 Receive Delay Constants. (Block 2, Word 32)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 32	RCABD							LSB	RCAAD							LSB

The bit designation shall be as follows:

BIT	DESIGNATION
0-7	RECEIVE OMNIDIRECTIONAL ANTENNA A DELAY (RCAAD) LSB: 12.5 NANOSECONDS RANGE: 0 TO 3187.5 NANOSECONDS
8-15	RECEIVE DIRECTIONAL ANTENNA B DELAY (RCABD) LSB: 12.5 NANOSECONDS RANGE: 0 TO 3187.5 NANOSECONDS

110.1.2.4 Initialization Data Block 16.

110.1.2.4.1 Host Addressed/Received Message Filter Word. (Block 16, Word 19)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 19						FT								ALL	SEC	PRI

The bit designation shall be as follows:

BIT	DESIGNATION
1	SECONDARY TRACK NUMBER FILTER (SEC) LOGIC 0 = PROVIDE ALL MESSAGES ADDRESSED TO SECONDARY TNs (INCLUDING SPECIAL MCE SECONDARY Tns)
2	ALL TRACK NUMBERS FILTER (ALL) LOGIC 0 = PROVIDE ALL ADDRESSED MESSAGES (SET TO LOGIC 1 BY THE HOST FOR MCE)

110.1.2.5 Initialization Data Block 23.

110.1.2.5.1 TSRD Addressed/Loopback/Received Message Filter Word. (Block 23, Word 4).

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 4					HDR	FT	VB	VA	VMF	LOOPBACK ALL	LOOPBACK RTT	LOOPBACK TEST	LOOPBACK PPLI	ADDRESSED ALL	ADDRESSED SEC	ADDRESSED PRI

The bit designation shall be as follows:

BIT	DESIGNATION
1	SECONDARY TRACK NUMBER FILTER (ADDRESSED SEC) LOGIC 0 = PROVIDE ALL MESSAGES ADDRESSED TO SECONDARY TNS (INCLUDING SPECIAL MCE SECONDARY Tns)

110.1.2.6 Initialization Data Block 24.

110.1.2.6.1 MCE Special Secondary Track Numbers. (Block 24, Words 15 through 22). This unique MCE initialization data is shown in Appendix III. See 30.4.10.2.

110.1.2.7 Initialization Data Block 56.

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
wd 1	CHECKSUM (SEE 30.4.1.1)															
wd 2	CONTROL WORD FOR INITIALIZATION BLOCKS (SEE 30.4.1.2)															
wd 3	MUX MESSAGE RATE WORD (NOT USED FOR MCE)															
wd 4	NPG BUFFER 3 WORD															
wd 5	NPG BUFFER 1 WORD															
wd 6	NPG BUFFER 2 WORD															
wd 7	NPG BUFFER 4 WORD															
wd 8	NPG BUFFER 5 WORD															
wd 9	NPG BUFFER 6 WORD															
wd 10	NPG BUFFER 7 WORD															
wd 11	NOT USED FOR MCE															
wd 12	NOT USED FOR MCE															
wd 13	NOT USED FOR MCE															
wd 14	NOT USED FOR MCE															
wd 15	NOT USED FOR MCE															
wd 16	HOT STANDBY AND RELAY INHIBIT CONTROL															
wd 17	NOT USED FOR MCE															
wd 18	NOT USED FOR MCE															
wd 19	NOT USED FOR MCE															
wd 20	NOT USED FOR MCE															
wd 21	NOT USED FOR MCE															
wd 22	NOT USED FOR MCE															
wd 23	NOT USED FOR MCE															
wd 24	NOT USED FOR MCE															
wd 25	NOT USED FOR MCE															
wd 26	NOT USED FOR MCE															
wd 27	NOT USED FOR MCE															
wd 28	NOT USED FOR MCE															
wd 29	NOT USED FOR MCE															
wd 30	NOT USED FOR MCE															
wd 31	NOT USED FOR MCE															
wd 32	NOT USED FOR MCE															

MCE ONLY - INITIALIZATION BLOCK 56

110.1.2.7.1 Block 56, Word 3.

110.1.2.7.2 NPG Buffer Word. (Block 56, Words 4-10)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 4								NPG BUFFER								

The bit designation shall be as follows:

BIT	DESIGNATION
0-8	THE HOST-DEFINED NPG FOR WHICH THE SICP WILL PROVIDE SPECIAL BUFFERS (NPG BUFFER) RANGE: 0-511 0 = NO STATEMENT OTHER VALUES = ASSIGNED NPG DEFAULT VALUES WORD 4 = 31 (IJMS) WORD 5 = 7 (TADIL-J SURVEILLANCE) WORD 6 = 9 (TADIL-J CONTROL) WORDS 7-10 = NO STATEMENT FOR THESE NPGS, THE SICP WILL PROVIDE SPECIAL BUFFERING FOR COMMON CARRIER MESSAGES RECEIVED FROM THE HOST.
9-15	SPARE

110.1.2.7.3 Block 56, Words 5 through 15. Not used for MCE.

110.1.2.7.4 Hot Standby (HTBY) and Relay Inhibit Control. (Block 56, Word 16)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 16														HTBY	RI	

The bit designation shall be as follows:

BIT	DESIGNATION
0	SPARE
1	RELAY INHIBIT CONTROL (RI) LOGIC 1 = ENABLE RELAY INHIBIT LOGIC 0 = DISABLE RELAY INHIBIT (DEFAULT VALUE)
2	HOT STANDBY (HTBY) LOGIC 0 = DISABLE HOT STANDBY (DEFAULT VALUE) LOGIC 1 = ENABLE HOT STANDBY

NOTE: WHEN THE TERMINAL IS PLACED IN THE HOT STANDBY MODE, THE TRANSMISSION MODE (XMIT), NET TIME REFERENCE (NTR), POSITION REFERENCE (PR), AND ORGANIZATIONAL USER TYPE SETTINGS IN INITIALIZATION BLOCK 1 AND TOM 1 WILL SHOW WHAT WILL BE IN EFFECT WHEN HOT STANDBY IS DISABLED. WHILE IN HOT STANDBY MODE THE TERMINAL WILL OPERATE AS A SECONDARY USER AND WILL NOT BE AN NTR OR A PR.

3-15	SPARE

110.1.2.7.5 (Block 56, Words 17-32). Not used for MCE

110.1.2.8 Initialization Data Block 60.

110.1.2.8.1 IJMS Host Address/Received Message Filter Word. (Block 60, Word 21)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 21	P				HDR	FT								ADDRESSED ALL	ADDRESSED SEC	ADDRESSED PRI

The bit designation shall be as follows:

BIT	DESIGNATION
1	IJMS SECONDARY TRACK NUMBER MESSAGE FILTER (ADDRESSED SEC) LOGIC 1 = PROVIDE ALL MESSAGES ADDRESSED TO SECONDARY Tns (INCLUDING SPECIAL MCE SECONDARY Tns) (DEFAULT VALUE)
2	IJMS ALL ADDRESSED TRACK NUMBER MESSAGE FILTER (ADDRESSED ALL) LOGIC 1 = PROVIDE ALL ADDRESSED MESSAGES (SET TO ZERO FOR MCE)
11	IJMS RECEIVED MESSAGE HEADER FILTER (HDR) LOGIC 1 = PROVIDE RECEIVED MESSAGE HEADERS. FILTER NOT USED FOR MCE. (SET TO ZERO FOR MCE)

110.1.2.9 Initialization Data Block 61.

110.1.2.9.1 IJMS TSRD Addressed/Loopback/Received Message Filter Word (Block 61, Word 8).

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0 LSB
wd 8					HDR	FT				LOOPBACK				ADDRESSED		
										ALL	RTT	TEST	P	ALL	SEC	PRI

The bit designation shall be as follows:

BIT	DESIGNATION
1	IJMS SECONDARY TRACK NUMBER MESSAGES FILTER (ADDRESSED SEC) LOGIC 1 = PROVIDE ALL IJMS MESSAGES ADDRESSED TO SECONDARY TNs (INCLUDING SPECIAL MCE SECONDARY TNs)

110.1.2.10 Initialization Data Block 63.

110.1.2.10.1 Mode Control Word. (Block 63, Word 3)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 3	LBS				TACAN STOP						XMIT ANT		SNE	TORDE	BIT	
					XPOND	INTE										

The bit designation shall be as follows:

BIT	DESIGNATION
4-5	TRANSMIT ANTENNA (XMIT ANT)

BIT 5 • 4

0 • 0 DUAL ANTENNA
0 • 1 OMNIDIRECTIONAL ANTENNA A - (DEFAULT
• VALUE)
1 • 0 DIRECTIONAL ANTENNA B
1 • 1 NOT USED FOR MCE

NOTE: DEFAULT VALUE IS ONLY VALUE USED BY MCE

110.1.3 MCE Usage of Appendix IV. This section contains changes for MCE against Appendix IV.

110.1.3.1 Ongoing Status (Block 1).

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
wd 1	CONTROL WORD															
wd 2	ADDRESS WORD															
wd 3	ONGOING STATUS WORD 1															
wd 4	ONGOING STATUS WORD 2															
wd 5	NOT USED FOR MCE															
wd 6	NOT USED FOR MCE															
wd 7	CHECKSUM ERROR WORD 1															
wd 8	CHECKSUM ERROR WORD 2															
wd 9	CHECKSUM ERROR WORD 3															
wd 10	CHECKSUM ERROR WORD 4															
wd 11	VALIDITY ERROR WORD 1															
wd 12	VALIDITY ERROR WORD 2															
wd 13	VALIDITY ERROR WORD 3															
wd 14	VALIDITY ERROR WORD 4															
wd 15	BLOCK COUNT ERROR WORD															
wd 16	NOT USED															
wd 17	NOT USED															
wd 18	NOT USED															
wd 19	NOT USED															
wd 20	NOT USED															
wd 21	NOT USED															
wd 22	NOT USED															
wd 23	NOT USED															
wd 24	NOT USED															
wd 25	NOT USED															
wd 26	NOT USED															
wd 27	NOT USED															
wd 28	NOT USED															
wd 29	NOT USED															
wd 30	NOT USED															
wd 31	NOT USED															
wd 32	NOT USED															

MCE ONLY - STATUS BLOCK 1

110.1.3.1.1 Control Word. (For all blocks)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 1			ATS		AE					RT		WC				

The bit designation shall be as follows:

BIT	DESIGNATION
0-4	WORD COUNT (WC) THE NUMBER OF WORDS BEING REQUESTED (1-30). THIS FIELD IS USED ONLY IF ATS (BITS 12-13) IS SET TO "PHYSICAL". IF ATS IS SET TO "DATA WORD CODE", THIS FIELD IS A "DON'T CARE".
5-6	REQUEST TYPE (RT) BIT 6 • 5 0 • 0 NO STATEMENT - NO DATA IS BEING REQUESTED 0 • 1 ADDRESS REQUEST - INDICATES A DATA REQUEST USING A PHYSICAL ADDRESS 1 • 0 STATUS BLOCK REQUEST 1 • 1 INITIALIZATION BLOCK REQUEST
7	SPARE
8-11	ADDRESS EXTENSION (AE) THE FOUR MSBS OF MEMORY ADDRESS. USED ONLY WHEN ATS (BITS 12-13) IS SET TO "PHYSICAL"; IN THIS CASE THE SIXTEEN LSBS OF THE MEMORY ADDRESS ARE IN WORD 2. IF ATS IS NOT SET TO "PHYSICAL", THIS FIELD IS A "DON'T CARE".
12-13	ADDRESS TYPE SPECIFIER (ATS) BIT 13 • 12 0 • 0 SPARE 0 • 1 PHYSICAL - MEMORY LOCATION IS SPECIFIED BY A 20-BIT ABSOLUTE MEMORY ADDRESS 1 • 0 DATA WORD CODE - AN INITIALIZATION BLOCK OR STATUS BLOCK IS BEING REQUESTED 1 • 1 SPARE
14-15	SPARE

110.1.3.1.2 Address Word. (For all blocks). Used when the physical addressing method is chosen in Word 1:

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 2	ADDRESS															

The bit designation shall be as follows:

BIT	DESIGNATION
0-15	THE 16 LSBS (THE MSBS ARE IN THE "AE" FIELD OF WORD 1) OF THE PHYSICAL ADDRESS.

Used when the Data Word Code method is chosen in Word 1:

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 2	BI						SDW					DWC				

The bit designation shall be as follows:

BIT	DESIGNATION
0-4	DATA WORD COUNT (DWC) THE NUMBER OF CONTIGUOUS DATA WORDS DESIRED, INCLUDING THE STARTING DATA WORD. RANGE: 1-30
5-9	STARTING DATA WORD (SDW) THE FIRST DESIRED DATA WORD WITHIN THE INITIALIZATION OR STATUS BLOCK. RANGE: 2-31 THIS VARIABLE USED THE DPG'S INTERNAL NUMBERING SYSTEM. NOTE THAT THE SUM OF DWC AND SDW MUST BE LESS THAN OR EQUAL TO 32.
10-15	BLOCK ID (BI) THE DESIRED STATUS OR INITIALIZATION BLOCK RANGE: 0-63

110.1.3.1.3 Ongoing Status Word 1 (Block 1, Word 3)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 3	TSTF	TG	TERMF	SA	IPFF	DEGPR		MF		TDF	TORDE	TOLD	BATF			

The bit designation shall be as follows:

BIT	DESIGNATION
0-2	NOT USED
3	BATTERY FAIL (BATF) LOGIC 1 = BATTERY FAIL
4	THERMAL OVERLOAD (TOLD) LOGIC 1 = POWER AMPLIFIER IS OVER TEMPERATURE
5	THERMAL OVERRIDE (TORDE) LOGIC 1 = TERMINAL IS OPERATING IN THE THERMAL OVERRIDE CONDITION.
6	TACTICAL DATA SYSTEMS FAILURE (TDF) LOGIC 1 = THE SICP HAS NOT RECEIVED A VALID TERMINAL INPUT MESSAGE IN THE LAST 12 SECONDS.
7	NOT USED BY MCE
8	MESSAGE ALERT (MF) LOGIC 1 = ONE OF THE FOLLOWING HAS OCCURRED IN THE LAST TWELVE SECONDS: NO MESSAGES RECEIVED; MOST MESSAGES RECEIVED IN ERROR, DEGRADED RTT TRANSMIT PERFORMANCE.
9	NOT USED
10	DEGRADED PERFORMANCE (DEGPR) LOGIC 1 = ONE OF THE FOLLOWING HAS OCCURRED: ANTENNA REDUCED POWER OUTPUT OR VSWR FAIL.
11	IPF FAIL (IPFF) LOGIC 1 = AN INTERFERENCE PROTECTION FEATURE FAILURE HAS BEEN DETECTED.

MCE ONLY - STATUS BLOCK 1

BIT	DESIGNATION
12	SDU ALERT (SA) LOGIC 1 = AN SDU ALARM OR BAD VARIABLE HAS BEEN DETECTED.
13	TERMINAL FAIL (TERMF) LOGIC 1 = A DDP, R/T, IU, HPAG, BATTERY, LOOPBACK OR IPF FAIL HAS BEEN DETECTED.
14	TEST GO (TG) LOGIC 1 = MANUAL BIT IS COMPLETE AND ALL TESTS HAVE PASSED.
15	TEST FAIL (TSTF) LOGIC 1 = AN LRU FAILURE, TERMINAL FAIL, SDU ALERT, IPF FAIL, OR DEGRADED PERFORMANCE HAS BEEN DETECTED. APPLIES ONLY TO MANUAL BIT AND COMES AT THE END OF PROCESS.

MCE ONLY - STATUS BLOCK 1

110.1.3.1.4 Ongoing Status Word 2 (Block 1, Word 4)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 4	BIP	BL	DC	IDR	IC			NFS	NS		PI		VT			

The bit designation shall be as follows:

BIT	DESIGNATION
0-2	NOT USED
3	VALIDITY TEST IN PROGRESS (VT) LOGIC 1 = AN INITIALIZATION DATA LOAD HAS BEEN RECEIVED BY THE TERMINAL AND DPG VALIDITY TESTING IS IN PROGRESS.
4	NOT USED
5	PLATFORM ID REQUESTED (PI) LOGIC 1 = PLATFORM ID (BLOCK 0) REQUESTED
6	NOT USED
7	NO COARSE SYNC (NS) LOGIC 1 = NET ENTRY HAS BEEN INITIATED, BUT COARSE SYNC HAS NOT YET BEEN ACHIEVED; I.E., THE FIRST NET ENTRY MESSAGE HAS NOT YET BEEN RECEIVED.
8	NO FINE SYNC (NFS) LOGIC 1 = COARSE SYNC HAS BEEN ACHIEVED, BUT FINE SYNC HAS NOT BEEN ACHIEVED. TERMINAL MAY TRANSMIT ONLY RTT MESSAGES.
9-10	NOT USED
11	INITIALIZATION COMPLETE (IC) LOGIC 1 = INITIALIZATION DATA LOAD HAS BEEN ACCEPTED (OR THE HOST HAS SUBMITTED A START NET ENTRY COMMAND FOLLOWING A BAD LOAD) BY TERMINAL BUT NET ENTRY HAS NOT BEEN INITIATED.

BIT	DESIGNATION
12	INITIALIZATION DATA REQUIRED (IDR) LOGIC 1 = INITIALIZATION DATA REQUIRED
13	DATA CONFLICT (DC) LOGIC 1 = THE DPG FOUND A VALIDITY ERROR IN THE LAST INITIALIZATION DATA CHANGE SUBMITTED BY THE HOST.
14	BAD LOAD (BL) LOGIC 1 = INITIALIZATION DATA LOAD RECEIVED IN ERROR.
15	BIT IN PROCESS (BIP) LOGIC 1 = MANUAL BIT IN PROGRESS

NOTE: IN THIS WORD, BITS 3, 5, 7, 8, 11, 12, 13 AND 14 ARE MUTUALLY EXCLUSIVE.

110.1.3.1.5 Checksum Error Words 1-4 (Block 1, Words 7-10).

	MSB															LSB
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
wd 7	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
wd 8	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
wd 9	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32
wd 10	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48

LOGIC 1 = A CHECKSUM ERROR WAS FOUND IN THE CORRESPONDING INITIALIZATION BLOCK.
LOGIC 0 = A CHECKSUM ERROR WAS NOT FOUND IN THE CORRESPONDING INITIALIZATION BLOCK.

NOTE: THESE WORDS ARE VALID WHEN INITIALIZATION STATUS IS SET TO "LOAD COMPLETE - LOAD ERROR DETECTED", OR, EQUIVALENTLY, BIT 14 IN WORD 4 OF THIS STATUS BLOCK IS SET TO LOGIC 1.

110.1.3.1.6 Validity Error Words 1-4 (Block 1, Words 11-14). These words have the same format and are valid at the same time as words 7-10.

LOGIC 1 = A VALIDITY ERROR WAS FOUND IN THE CORRESPONDING INITIALIZATION BLOCK DURING RAPID DATA LOAD (RDL).
LOGIC 0 = A VALIDITY ERROR WAS NOT FOUND IN THE CORRESPONDING INITIALIZATION BLOCK DURING RAPID DATA LOAD (RDL).

MCE ONLY - STATUS BLOCK 1

110.1.3.1.7 Block Count Error Word (Block 1, Word 15).

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 15		BCE														

BIT	DESIGNATION
0-13	NOT USED
14	BLOCK COUNT ERROR (BCE) LOGIC 1 = A BLOCK COUNT ERROR WAS FOUND IN THE INITIALIZATION LOAD. LOGIC 0 = A BLOCK COUNT ERROR WAS NOT FOUND IN THE INITIALIZATION LOAD.
	NOTE: THIS BIT IS VALID AT THE SAME TIME AS WORDS 7-14.
15	SPARE

110.1.3.2 BIT Status Report. (Block 8)

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
wd 1	CONTROL WORD (SEE 40.5.1.1)															
wd 2	ADDRESS WORD (SEE 40.5.1.2)															
wd 3	TERMINAL FAIL DDP (TDMA)															
wd 4	TERMINAL FAIL DDP (TDMA)															
wd 5	TERMINAL FAIL R/T (TDMA)															
wd 6	TERMINAL FAIL R/T-HPA (TDMA)															
wd 7	NOT USED FOR MCE															
wd 8	TERMINAL FAIL IU															
wd 9	NOT USED FOR MCE															
wd 10	TERMINAL FAIL BATTERY (TDMA)															
wd 11	TERMINAL FAIL LOOPBACK															
wd 12	TERMINAL FAIL IU															
wd 13	MESSAGE STATUS WORD															
wd 14	LRU BIT AND STATUS SUMMARY WORD															
wd 15	SRU SUMMARY WORD															
wd 16	SDU ALERT WORD															
wd 17	DEGRADED PERFORMANCE WORD															
wd 18	TERMINAL FAIL (IPF) (TDMA) R/T-HPA															
wd 19	START-UP/INTERRUPT WORD															
wd 20	NICP/SICP DEGRADED OPERATION WORD															
wd 21	TERMINAL FAIL HPAG															
wd 22	NOT USED FOR MCE															
wd 23	NOT USED FOR MCE															
wd 24	NOT USED FOR MCE															
wd 25	NOT USED FOR MCE															
wd 26	NOT USED FOR MCE															
wd 27	NOT USED FOR MCE															
wd 28	NOT USED FOR MCE															
wd 29	NOT USED FOR MCE															
wd 30	NOT USED FOR MCE															
wd 31	NOT USED FOR MCE															
wd 32	NOT USED FOR MCE															

MCE ONLY - STATUS BLOCK 8

110.1.3.2.1 Terminal Fail DDP Word 1. (Block 8, Word 3)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 3	MBTESTF	IFLBFL	PTPMB	MBTEST		GMAF	GMF	CHF	NLSR					ROMF	RAMF	CPUF

The bit designation shall be as follows:

BIT	DESIGNATION
0	LOGIC 1 = NICP CPU FAIL (CPUF)
1	LOGIC 1 = NICP RAM FAIL (RAMF)
2	LOGIC 1 = NICP ROM FAIL (ROMF)
3	LOGIC 1 = NICP TRAP FAILURE (68030 ONLY)
4-6	SPARE
7	LOGIC 1 = NICP STATUS REPORT (NSR) NOT RECEIVED IN LRU BIT (NLSR)
8	LOGIC 1 = CHRONOMETER FAIL (CHF)
9	LOGIC 1 = GLOBAL MEMORY TEST FAIL (GMF)
10	LOGIC 1 = GLOBAL MEMORY TEST FAIL (GMAF)
11	SPARE
12	LOGIC 1 = NICP/PTP MAILBOX TEST FAIL (MBTEST). DETERMINED BY THE PTP.
13	LOGIC 1 = NICP/PTP MAILBOX TEST FAIL (PTPMB). DETERMINED BY THE NICP.
14	LOGIC 1 = IF LOOPBACK FAIL (IFLBFL)
15	LOGIC 1 = SICP/NICP MAILBOX TEST FAILURE (MBTESTF). DETERMINED BY THE SICP.

110.1.3.2.2 Terminal Fail DDP. (Block 8, Word 4)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 4	DRTIF	CORRF	PTPTEST	BBCF	PLLF	DIGLBFL	CPSMF	PTPFL	RSEDF	SDDF	CTPF	XMITF	OSCF	BITBF	BITRF	RTBF

The bit designation shall be as follows:

BIT	DESIGNATION
0	LOGIC 1 = REFERENCE TIME BASE FAIL (RTBF)
1	LOGIC 1 = R SUPPLY FAIL (BITRF)
2	LOGIC 1 = B SUPPLY FAIL (BITBF)
3	LOGIC 1 = OSCILLATOR FAIL (OSCF)
4	LOGIC 1 = XMIT TIMING AND CONTROL FAIL (XMITF)
5	LOGIC 1 = CTP FAIL (CTPF)
6	LOGIC 1 = SYNC DATA DET FAIL (SDDF)
7	LOGIC 1 = REED SOLOMON FAIL (RSEDF)
8	LOGIC 1 = PTP FAIL (PTPFL)
9	LOGIC 1 = CPSM FAIL (CPSMF)
10	LOGIC 1 = DIGITAL LOOPBACK FAIL (DIGLBFL)
11	LOGIC 1 = RFG FAIL (PLLF)
12	LOGIC 1 = BASEBAND CONVERTER FAIL (BBCF)
13	LOGIC 1 = PTP SELF TEST FAIL (PTPTEST)
14	LOGIC 1 = CORRELATOR FAIL (CORRF)
15	LOGIC 1= DDP-R/T INTERFACE FAIL (DRTIF)

110.1.3.2.3 Terminal Fail R/T-HPA. (Block 8, Word 5)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 5			RTSRUFL			CPSMD						RTTDMAF	TMWAFL		SYNTHF	RCVRF

The bit designation shall be as follows:

BIT	DESIGNATION
0	LOGIC 1 = RECEIVER (ONE OR MULTIPLE) FAIL (RCVRF)
1	LOGIC 1 = SYNTHESIZER (ONE OR MULTIPLE) FAIL (SYNTHF)
2	SPARE
3	LOGIC 1 = TUNE MODE WRAPAROUND FAIL (TMWAFL)
4	LOGIC 1 = R/T TDMA FAIL (RTTDMAF)
5-9	SPARE
10	LOGIC 1 = CPSM NOT DETECTED BY HPAG (CPSMD)
11-12	SPARE
13	LOGIC 1 = R/T SRU FAIL (RTSRUFL)
14-15	SPARE

110.1.3.2.4 Terminal Fail R/T Word 4. (Block 8, Word 6)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 6	HISS	HISL			TRTT		PAOTF	TSDIPF	POANTA	POANTB		IFFF	OOBFF	1030MF	PWF	

The bit designation shall be as follows:

BIT	DESIGNATION
0	SPARE
1	LOGIC 1 = PULSE WIDTH FAIL (PWF)
2	LOGIC 1 = 1030/1090 MONITOR FAIL (1030MF)
3	LOGIC 1 = OUT-OF-BOUNDS FREQUENCY FAIL (OOBFF)
4	LOGIC 1 = IFF FREQUENCY COUNTER FAIL (IFFF)
5	SPARE
6	LOGIC 1 = Po ANT B > +1 dB or < -3 dB (POANTB)
7	LOGIC 1 = Po ANT A > +1 dB or < -3 dB (POANTA)
8	LOGIC 1 = TRANSMISSION SHUTDOWN DUE TO IPF FAIL (TSDIPF)
9	LOGIC 1 = HIGH PA OVER TEMPERATURE (PAOTF)
10	SPARE
11	LOGIC 1 = TEST RTT LOOPBACK FAILURE (TRTT)
12-13	SPARE
14	LOGIC 1 = HISTOGRAM LONG TERM FAIL (HISL)
15	LOGIC 1 = HISTOGRAM SHORT TERM FAIL (HISS)

110.1.3.2.5 (Block 8, Word 7). Not used for MCE

110.1.3.2.6 Terminal Fail IU. (Block 8, Word 8)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 8			SICPST	CTPWF	PTPWF				SRUFM	TDMAF	MUXGMF	MUXF			TODF	BTCDAWA

The bit designation shall be as follows:

BIT	DESIGNATION
0	LOGIC 1 = BIT CARD WRAPAROUND FAILURE (BTCDAWA)
1	LOGIC 1 = TAILORED OUTPUT FAIL (TODF) -
2-3	NOT USED
4	LOGIC 1 = MUX FAIL (MUXF)
5	LOGIC 1 = MUX MAILBOX FAIL (MUXGMF)
6	LOGIC 1 = TAILORED TDMA FAIL (TDMAF)
7	LOGIC 1 = SRU INITIATE IN FALSE MODE (SRUFM)
8-10	SPARE
11	LOGIC 1 = PTP BIT INIT WRAPAROUND FAIL (PTPWF)
12	LOGIC 1 = CTP BIT INIT WRAPAROUND FAIL (CTPWF)
13	LOGIC 1 = SICP SELF TEST FAIL (SICPST)
14-15	SPARE

110.1.3.2.7 (Block 8, Word 9).

110.1.3.2.8 Terminal Fail Battery. (Block 8, Word 10)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 10										BSTIF						

The bit designation shall be as follows:

BIT	DESIGNATION
0-5	NOT USED
6	LOGIC 1 = NICAD BATTERY FAIL (BSTIF)
7-15	NOT USED

110.1.3.2.9 Terminal Fail RF Loopback. (Block 8, Word 11)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 11	LBSTAT		LBE	LBD	LBC	LBB	LBA	LB9	LB8	LB7	LB6	LB5	LB4	LB3	LB2	LB1

The bit designation shall be as follows:

BIT	DESIGNATION
0	LOGIC 1 = STANDARD FT UNCODED MESSAGE TYPE FAILURE (LB1)
1	LOGIC 1 = PACKED 2 DP FT UNCODED MESSAGE TYPE FAILURE (LB2)
2	LOGIC 1 = PACKED 2 DP FT CODED MESSAGE TYPE FAILURE (LB3)
3	LOGIC 1 = PACKED 2 SP FF CODED MESSAGE TYPE FAILURE (LB4)
4	LOGIC 1 = STANDARD FF CODED MESSAGE TYPE FAILURE (LB5)
5	LOGIC 1 = PACKED 2 DP FF CODED MESSAGE TYPE FAILURE (LB6)
6	LOGIC 1 = STANDARD FT CODED MESSAGE TYPE FAILURE (LB7)
7	LOGIC 1 = PACKED 4 SP FF CODED MESSAGE TYPE FAILURE (LB8)
8	LOGIC 1 = PACKED 2 SP FT UNCODED MESSAGE TYPE FAILURE (LB9)
9	LOGIC 1 = PACKED 4 SP FT UNCODED MESSAGE TYPE FAILURE (LBA)
10	LOGIC 1 = PACKED 4 SP FT CODED MESSAGE TYPE FAILURE (LBB)
11	LOGIC 1 = PACKED 2 SP FT CODED MESSAGE TYPE FAILURE (LBC)
12	LOGIC 1 = TEST RTT LOOPBACK FAILURE (LBD)

MCE ONLY - STATUS BLOCK 8

BIT	DESIGNATION
13	LOGIC 1 = RTT INT 2A MESSAGE TYPE FAILURE (LBE)
14-15	CURRENT LOOPBACK STATUS (LBSTAT)

BIT 15 • 14

0 • 0 TRANSMITTED: NO ERRORS
0 • 1 LOOPBACK DECODE FAIL
1 • 0 TOA COMPARISON FAIL
1 • 1 NO LOOPBACK RECEIVED

110.1.3.2.10 Terminal Fail IU. (Block 8, Word 12)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 12								VGM2F	VGM1F	V2F	V1F	MSTF			SICROM	SICRAM

The bit designation shall be as follows:

BIT	DESIGNATION
0	LOGIC 1 = SICP RAM FAIL (SICRAM)
1	LOGIC 1 = SICP ROM FAIL (SICROM)
2-3	NOT USED
4	LOGIC 1 = MUX SELF TEST FAIL (MSTF)
5	LOGIC 1 = VOICE 1 FAIL (V1F)
6	LOGIC 1 = VOICE 2 FAIL (V2F)
7	LOGIC 1 = VOICE GM TEST WORD 1 FAIL (VGM1F)
8	LOGIC 1 = VOICE GM TEST WORD 2 FAIL (VGM2F)
9-15	SPARE

110.1.3.2.11 Message Status Word. (Block 8, Word 13)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 13					TMF	NOLB	LTFL	LCFL	MNA	TRERR	NRTTR	NMESS	MER			

The bit designation shall be as follows:

FOR EACH VARIABLE BELOW,

LOGIC 1 = THE NICP REPORTED THE SPECIFIED CONDITION IN ITS LAST 12-SECOND STATUS REPORT.
LOGIC 0 = THE NICP DID NOT REPORT THE SPECIFIED CONDITION IN ITS LAST 12-SECOND STATUS REPORT.

BIT	DESIGNATION
0-2	SPARE
3	EXCESSIVE UNCORRECTABLE MESSAGE ERROR RATE (MER)
4	NO MESSAGES SUCCESSFULLY RECEIVED (NMESS)
5	POOR RESPONSE TO RTT INTERROGATIONS (NRTTR)
6	ONE OR MORE TRANSMISSIONS RECEIVED IN ERROR (TRERR)
7	ONE OR MORE MESSAGES NOT ACKNOWLEDGED (MNA)
8	ONE OR MORE LOOPBACK DECODE FAILS (LCFL)
9	ONE OR MORE LOOPBACK TOA FAILS (LTFL)
10	ONE OR MORE OCCURRENCES OF NO LOOPBACK (NOLB)
11	ONE OR MORE TEST MESSAGE FAILS (TMF)
12-15	SPARE

I POOR = (NUMBER OF RTT REPLIES RECEIVED) DIVIDED BY (NUMBER OF RTT INTERROGATIONS TRANSMITTED) < 0.80 AND NUMBER OF RTT INTERROGATIONS TRANSMITTED > 0.

110.1.3.2.12 LRU BIT and Status Summary Word. (Block 8, Word 14)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 14					HPAGF	BSTIF	DEGPR	MESSF	IPFF	SDUAL	RTF	IUF	DDPF		TDMAF	TERMF

The bit designation shall be as follows:

BIT	DESIGNATION
0	LOGIC 1 = TERMINAL FAIL (TERMF)
1	LOGIC 1 = TDMA FAIL (TDMAF)
2	NOT USED
3	LOGIC 1 = DDP FAIL (DDPF)
4	LOGIC 1 = IU FAIL (IUF)
5	LOGIC 1 = R/T FAIL (RTF)
6	LOGIC 1 = SDU ALERT (SDUAL)
7	LOGIC 1 = IPF FAIL (IPFF)
8	LOGIC 1 = MESSAGE FAIL (MESSF)
9	LOGIC 1 = DEGRADED PERFORMANCE (DEGPR)
10	LOGIC 1 = NICAD BATTERY FAIL (BSTIF)
11	LOGIC 1 = HPAG FAIL (HPAGF)
12-15	SPARE

110.1.3.2.13 SRU Summary Word. (Block 8, Word 15)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 15	UNIT				SRUTMPF				SRUSMPF				SRUMPF			

The bit designation shall be as follows:

BIT	DESIGNATION
0-3	SRU MOST PROBABLE FAILURE INDICATOR (SRUMPF)

BIT 3 • 2 • 1 • 0	
0 • 0 • 0 • 0	NO FAILURE
0 • 0 • 0 • 1	CARD A1 FAILED
. • . • . • .	
. • . • . • .	
1 • 1 • 1 • 1	CARD A15 FAILED

4-7	SRU SECOND MOST PROBABLE FAILURE INDICATOR (SRUMPF)

BIT 7 • 6 • 5 • 4	
0 • 0 • 0 • 0	NO FAILURE
0 • 0 • 0 • 1	CARD A1 FAILED
. • . • . • .	
. • . • . • .	
1 • 1 • 1 • 1	CARD A15 FAILED

8-11	SRU THIRD MOST PROBABLE FAILURE INDICATOR (SRUTMPF)

BIT 11 • 10 • 9 • 8	
0 • 0 • 0 • 0	NO FAILURE
0 • 0 • 0 • 1	CARD A1 FAILED
. • . • . • .	
. • . • . • .	
1 • 1 • 1 • 1	CARD A15 FAILED

MCE ONLY - STATUS BLOCK 8

BIT	DESIGNATION

12-15 UNIT - INDICATES THE LRU IN WHICH THE FAILED CARDS ARE LOCATED

BIT 15	14	13	12	
0	0	0	0	NO FAILURE
0	0	0	1	R/T
0	0	1	0	DDP
0	0	1	1	IU
0	1	0	0	SPARE
0	1	0	1	SDU
0	1	1	0	BATTERY
0	1	1	1	HPAG

REMAINING VALUES ARE NOT USED

110.1.3.2.14 SDU Alert Word. (Block 8, Word 16)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 16		VAR7	VAR6	VAR5	VAR4	VAR3	VAR2	VAR1	VAR0	ALARM						

The bit designation shall be as follows:

BIT	DESIGNATION
0-5	SPARE
6	LOGIC 1 = SDU ALARM
7	LOGIC 1 = SDU VAR 0 BAD
8	LOGIC 1 = SDU VAR 1 BAD
9	LOGIC 1 = SDU VAR 2 BAD
10	LOGIC 1 = SDU VAR 3 BAD
11	LOGIC 1 = SDU VAR 4 BAD
12	LOGIC 1 = SDU VAR 5 BAD
13	LOGIC 1 = SDU VAR 6 BAD
14	LOGIC 1 = SDU VAR 7 BAD
15	SPARE

NOTE: ALL OF THESE VARIABLES ARE FROM THE NICP 12-SECOND REPORT. BIT 6 (SDU ALARM) IS LOGIC 1 IF THERE WAS AN SDU ALARM AT THE TIME THE 12-SECOND REPORT WAS MADE. BITS 7-14 ARE LOGIC 1 IF THE SDU REPORTED A PARITY ERROR IN THE CORRESPONDING VARIABLE AT LEAST ONCE IN THE 12-SECOND PERIOD.

110.1.3.2.15 Degraded Performance Word. (Block 8, Word 17)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 17										POANTDA		POANTDB	LAOTF	VSWRBF	VSWRAF	

The bit designation shall be as follows:

BIT	DESIGNATION
0	SPARE
1	LOGIC 1 = VSWR ANT A FAIL (VSWRAF)
2	LOGIC 1 = VSWR ANT B FAIL (VSWRBF)
3	LOGIC 1 = LOW PA OVERTEMP (LAOTF)
4	POWER OUTPUT B < 3 dB DOWN (POANTDB)
5	SPARE
6	POWER OUTPUT A < 3 dB DOWN (POANTDA)
7-15	SPARE

NOTE: IF HPA PRESENT BIT (SEE INITIALIZATION BLOCK 1, WORD 3, BIT 7), IS SET TO "HPA PRESENT", THEN THIS WORD INDICATES HPA DEGRADED PERFORMANCE. IF HPA PRESENT BIT IS NOT SET, THEN IT INDICATES R/T DEGRADED PERFORMANCE.

110.1.3.2.16 Terminal Fail (IPF) (TDMA) R/T-HPA. (Block 8, Word 18)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 18									TSDIPF			U	RE	PW	FS	PLF

The bit designation shall be as follows:

BIT	DESIGNATION
0	LOGIC 1 = IPF POWER LIMIT FAILURE (PLF)
1	LOGIC 1 = IPF FREQUENCY SPECTRUM FAILURE (FS)
2	LOGIC 1 = IPF PULSE WIDTH FAILURE (PW)
3	LOGIC 1 = IPF RADIATED ENERGY FAILURE (RE)
4	LOGIC 1 = IPF UTILIZATION FAILURE (U)
5-6	SPARE
7	LOGIC 1 = TRANSMISSION SHUTDOWN DUE TO IPF FAILURE (TSDIPF)
8-15	SPARE

110.1.3.2.17 Start-Up/Interrupt Word. (Block 8, Word 19)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 19	START-UP/INTERRUPT															

The bit designation shall be as follows:

BIT	DESIGNATION
0-15	$AAAA_{16}$ = OPERATIONAL MODE OR TRANSITION FROM RECOVERABLE POWER INTERRUPT RANDOM BITS = COLD START UP

110.1.3.2.18 NICP/SICP Degraded Operation Word. (Block 8, Word 20)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 20	SQNS	DVZS	OVS	NOBS	TOS							SQNN	DVZN	OVN	NOBN	TON

The bit designation shall be as follows:

BIT	DESIGNATION
0	LOGIC 1 = NICP TIME OVERLOAD (TON)
1	LOGIC 1 = NO NICP INTERNAL BUFFERS (NOBN)
2	LOGIC 1 = NICP FLOATING POINT OVERFLOW (OVN)
3	LOGIC 1 = NICP DIVIDE BY ZERO (DVZN)
4	LOGIC 1 = NICP NEGATIVE SQUARE ROOT (SQNN)
5-10	NOT USED
11	LOGIC 1 = SICP TIME OVERLOAD (TOS)
12	LOGIC 1 = NO SICP INTERNAL BUFFERS (NOBS)
13	LOGIC 1 = SICP FLOATING POINT OVERFLOW (OVS)
14	LOGIC 1 = SICP DIVIDE BY ZERO (DVZS)
15	LOGIC 1 = SICP NEGATIVE SQUARE ROOT (SQNS)

110.1.3.2.19 Terminal Fail HPA (TDMA) Word. (Block 8, Word 21)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 21			HPAGSRUF													

The bit designation shall be as follows:

BIT	DESIGNATION
0-12	SPARE
13	LOGIC 1 = HPAG SRU FAIL (HPAGSRUF)
14-15	SPARE

110.1.3.3 Hot Standby and Message Status. (Block 29)

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
wd 1	CONTROL WORD (SEE 40.5.1.1)															
wd 2	ADDRESS WORD (SEE 40.5.1.2)															
wd 3	COMMUNICATION STATUS															
wd 4	SICP BUFFER STATUS WORD															
wd 5	NOT USED															
wd 6	NOT USED															
wd 7	NOT USED															
wd 8	NOT USED															
wd 9	NOT USED															
wd 10	NOT USED															
wd 11	NOT USED															
wd 12	NOT USED															
wd 13	NOT USED															
wd 14	NOT USED															
wd 15	NOT USED															
wd 16	NOT USED															
wd 17	NOT USED															
wd 18	NOT USED															
wd 19	NOT USED															
wd 20	NOT USED															
wd 21	NOT USED															
wd 22	NOT USED															
wd 23	NOT USED															
wd 24	NOT USED															
wd 25	NOT USED															
wd 26	NOT USED															
wd 27	NOT USED															
wd 28	NOT USED															
wd 29	NOT USED															
wd 30	NOT USED															
wd 31	NOT USED															
wd 32	NOT USED															

MCE ONLY - STATUS BLOCK 29

110.1.3.3.1 Communication Status. (Block 29, Word 3)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 3	HTBY	RI														

The bit designation shall be as follows:

BIT	DESIGNATION
0-13	NOT USED
14	RELAY INHIBIT STATUS (RI) LOGIC 1 = RELAY INHIBIT IS IN EFFECT
15	HOT STANDBY (HTBY) LOGIC 1 = HOT STANDBY IS IN EFFECT

110.1.3.3.2 SICP Buffer Status Word. (Block 29, Word 4)

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 4		BU3					BU2					BU1				

The bit designation shall be as follows:

BIT	DESIGNATION
0-4	BUFFER ONE STATUS (BU1) RANGE: 0 - 20 VALUES 21 - 31 ARE NOT USED. NUMBER OF SURVEILLANCE NPG (NPG 7) BUFFERS AVAILABLE IN THE SICP
5-9	BUFFER TWO STATUS (BU2) RANGE: 0 - 20 VALUES 21 - 31 ARE NOT USED. NUMBER OF CONTROL NPG (NPG 9) BUFFERS AVAILABLE IN THE SICP.
10-14	BUFFER THREE STATUS (BU3) RANGE: 0 - 20 VALUES 21 - 31 ARE NOT USED. NUMBER OF BUFFERS AVAILABLE IN THE SICP FOR THE HOST-DEFINED NPG.
15	NOT USED

110.1.4 MCE Usage of Appendix V. This section contains changes for MCE against Appendix V.

TABLE XI-V

RECORDABLE TAPE RECORDING BLOCKS

TAPE RECORDING BLOCK	PARAGRAPH NUMBER
TR TERMINAL STATUS DATA	110.1.4.1
TR PANEL/SICP DATA	50.1.3.2.2.3
TR SICP/PANEL DATA	50.1.3.2.2.4
MUX DATA	110.1.4.2
SICP COMPUTER REGISTERS	50.1.3.2.2.6
SICP MEMORY BLOCKS	50.1.3.2.2.7
RECEIVED MESSAGE HEADER DATA	50.1.3.2.2.8
CONTROL DISCRETE DATA	110.1.4.3
TR TADIL J TO IJMS TRANSLATED MESSAGE	50.1.3.2.2.11
TR ABORTED TRANSLATION	50.1.3.2.2.12
TR IJMS TO TADIL J TRANSLATED MESSAGE	50.1.3.2.2.13

110.1.4.1 TR Terminal Status Data. The TR data format shall be as follows:

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 0	0	1	0	0	1	1	1	1	WORD COUNT							
wd 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
wd 2	TIME TAG															
wd 3	TERMINAL FAIL DDP (TDMA)															
wd 4	TERMINAL FAIL DDP (TDMA)															
wd 5	TERMINAL FAIL R/T (TDMA)															
wd 6	TERMINAL FAIL R/T-HPA (TDMA)															
wd 7	NOT USED FOR MCE															
wd 8	TERMINAL FAIL IU															
wd 9	NOT USED FOR MCE															
wd 10	TERMINAL FAIL BATTERY (TDMA)															
wd 11	TERMINAL FAIL LOOPBACK (TDMA)															
wd 12	TERMINAL FAIL IU (TDMA)															
wd 13	MESSAGE STATUS WORD															
wd 14	LRU BIT AND STATUS SUMMARY WORD															
wd 15	SRU SUMMARY WORD															
wd 16	SDU ALERT WORD															
wd 17	DEGRADED PERFORMANCE WORD															
wd 18	TERMINAL FAIL (IPF) (TDMA) R/T-HPA															
wd 19	START UP/INTERRUPT WORD															
wd 20	NICP/SICP DEGRADED OPERATION WORD															
wd 21	TERMINAL FAIL HPA (TDMA)															
wd 22	NOT USED BY MCE															
wd 23	NOT USED BY MCE															

110.1.4.1.1 Terminal Fail DDP. WORD 3

BIT	DESIGNATION
0	LOGIC 1 = NICP CPU FAIL (CPU)
1	LOGIC 1 = NICP RAM FAIL (RAM)
2	LOGIC 1 = NICP ROM FAIL (ROM)
3-6	NOT USED
7	LOGIC 1 = NICP STATUS REPORT (NSR) NOT RECEIVED IN LRU BIT (NLSR)
8	LOGIC 1 = CHRONOMETER FAIL (CHF)
9	LOGIC 1 = GLOBAL MEMORY TEST FAIL (GMTST)
10	LOGIC 1 = GLOBAL MEMORY ADDRESS TEST FAIL (GMADD)
11	SPARE
12	LOGIC 1 = NICP/PTP MAILBOX TEST FAIL (MBTEST) DETERMINED BY THE PTP.
13	LOGIC 1 = PTP/NICP MAILBOX TEST FAIL (PTPMB) DETERMINED BY THE NICP.
14	LOGIC 1 = IF LOOPBACK FAIL (IFLBFL)
15	LOGIC 1 = SICP/NICP MAILBOX TEST FAIL (MBTESTF) DETERMINED BY THE SICP.

110.1.4.1.2 Terminal Fail DDP. WORD 4

BIT	DESIGNATION
0	LOGIC 1 = REFERENCE TIME BASE FAIL (RFTBFL)
1	LOGIC 1 = R SUPPLY FAIL (BITRF)
2	LOGIC 1 = B SUPPLY FAIL (BITBF)
3	LOGIC 1 = OSCILLATOR FAIL (OSCF)
4	LOGIC 1 = XMIT TIMING AND CONTROL FAIL (XMITF)
5	LOGIC 1 = CTP FAIL (CTPF)
6	LOGIC 1 = SYNC DATA DET FAIL (SDDF)
7	LOGIC 1 = REED SOLOMON FAIL (RSEDF)
8	LOGIC 1 = PTP FAIL (PTPFL)
9	LOGIC 1 = CPSM FAIL (CPSMF)
10	LOGIC 1 = DIGITAL LOOPBACK FAIL (DIFLBFL)
11	LOGIC 1 = RFG FAIL (PLLF)
12	LOGIC 1 = BASEBAND CONVERTER FAIL (BBCF)
13	LOGIC 1 = PTP SELF TEST (PTPTEST)
14	LOGIC 1 = CORRELATOR FAIL (CORRF)
15	LOGIC 1 = DDP-R/T INTERFACE FAIL (DRTIF)

110.1.4.1.3 Terminal Fail R/T. WORD 5

BIT	DESIGNATION
0	LOGIC 1 = RECEIVER (ONE OR MULTIPLE) FAIL (RCVRF)
1	LOGIC 1 = SYNTHESIZER (ONE OR MULTIPLE) FAIL (SYNTHF)
2	SPARE
3	LOGIC 1 = TUNE MODE WRAPAROUND FAIL (TMWAFL)
4	LOGIC 1 = R/T TDMA FAIL (RTTDMAF)
5-9	NOT USED
10	LOGIC 1 = CPSM NOT DETECTED BY HPA (CPSMD)
11-12	NOT USED
13	LOGIC 1 = R/T SRU FAIL (RTSRU)
14-15	NOT USED

110.1.4.1.4 Terminal Fail R/T-HPA. WORD 6

BIT	DESIGNATION
0	NOT USED
1	LOGIC 1 = PULSE WIDTH FAIL (PWF)
2	LOGIC 1 = 1030/1090 MONITOR FAIL (1030 MF)
3	LOGIC 1 = OUT-OF-BOUNDS FREQUENCY FAIL (OOBFF)
4	LOGIC 1 = IFF FREQUENCY COUNTER FAIL (IFFF)
5	NOT USED
6	LOGIC 1 = PO ANT B > + 1 dB, OR > 3dB DOWN (POANTB)
7	LOGIC 1 = PO ANT A > + 1 dB, OR > 3dB DOWN (POANTA)
8	LOGIC 1 = TRANSMISSION SHUTDOWN DUE TO IPF FAIL (TSDIPF)
9	LOGIC 1 = HIGH PA OVER TEMPERATURE (PAOTF)
10	NOT USED
11	LOGIC 1 = TEST RTT LOOPBACK FAILURE (TRTT)
12-13	NOT USED
14	LOGIC 1 = HISTOGRAM LONG TERM FAIL (HISL)
15	LOGIC 1 = HISTOGRAM SHORT TERM FAIL (HISS)

110.1.4.1.5 TR Terminal Status Data, Word 7. Not used by MCE.

110.1.4.1.6 Terminal Fail IU. WORD 8

BIT	DESIGNATION
0	LOGIC 1 = BIT CARD WRAPAROUND FAILURE (BTCDAWA)
1	LOGIC 1 = TAILORED I/O FAIL (TIOF)
2-3	NOT USED
4	LOGIC 1 = MUX FAIL (MUXF)
5	LOGIC 1 = MUX MAILBOX FAIL (MUXGMF)
6	LOGIC 1 = TAILORED TDMA FAIL (TDMAF)
7	LOGIC 1 = SRU INITIATE IN FALSE MODE (SRUFM)
8-10	NOT USED
11	LOGIC 1 = PTP BIT INIT WRAPAROUND FAIL (PTPWF)
12	LOGIC 1 = CTP BIT INIT WRAPAROUND FAIL (CTPWF)
13	LOGIC 1 = SICP SELF-TEST FAIL (SICPST)
14-15	NOT USED

110.1.4.1.7 TR Terminal Status Data Word 9. Not used for MCE.

110.1.4.1.8 Terminal Fail Battery WORD 10

BIT	DESIGNATION
0-5	NOT USED
6	LOGIC 1 = NICAD BATTERY FAIL (BSTIF)
7-15	NOT USED

110.1.4.1.9 Terminal Fail RF Loopback. WORD 11

BIT	DESIGNATION
0	LOGIC 1 = STANDARD FT UNCODED MESSAGE TYPE FAILURE (LB1)
1	LOGIC 1 = PACKED-2 DP FT UNCODED MESSAGE TYPE FAILURE (LB2)
2	LOGIC 1 = PACKED-2 DP FT CODED MESSAGE TYPE FAILURE (LB3)
3	LOGIC 1 = PACKED-2 SP FF CODED MESSAGE TYPE FAILURE (LB4)
4	LOGIC 1 = STANDARD FF CODED MESSAGE TYPE FAILURE (LB5)
5	LOGIC 1 = PACKED-2 DP FF CODED MESSAGE TYPE FAILURE (LB6)
6	LOGIC 1 = STANDARD FT CODED MESSAGE TYPE FAILURE (LB7)
7	LOGIC 1 = PACKED-4 SP FF CODED MESSAGE TYPE FAILURE (LB8)
8	LOGIC 1 = PACKED-2 SP FT UNCODED MESSAGE TYPE FAILURE (LB9)
9	LOGIC 1 = PACKED-4 SP FT UNCODED MESSAGE TYPE FAILURE (LBA)
10	LOGIC 1 = PACKED-4 SP FT CODED MESSAGE TYPE FAILURE (LBB)
11	LOGIC 1 = PACKED-2 SP FT CODED MESSAGE TYPE FAILURE (LBC)
12	LOGIC 1 = TEST RTT LOOPBACK FAILURE (LBD)

WORD 11 (CONTINUED)

BIT	DESIGNATION
13	LOGIC 1 = RTT INT 2A MESSAGE TYPE FAILURE (LBE)
14-15	LOOPBACK STATUS (LBSTAT)

BIT 15	14	
0	0	TRANSMITTED: NO ERRORS
0	1	LOOPBACK DECODE FAIL
1	0	TOA COMPARISON FAIL
1	1	NO LOOPBACK RECEIVED

110.1.4.1.10 Terminal Fail IU. WORD 12

BIT	DESIGNATION
0	LOGIC 1 = SICP RAM FAIL (SICRAM)
1	LOGIC 1 = SICP ROM FAIL (SICROM)
2-3	NOT USED
4	LOGIC 1 = MUX SELF TEST FAIL (MSTF)
5	LOGIC 1 = VOICE 1 FAIL (V1F)
6	LOGIC 1 = VOICE 2 FAIL (V2F)
7	LOGIC 1 = VOICE GM TEST WORD 1 FAIL (VPTWD1F)
8	LOGIC 1 = VOICE GM TEST WORD 2 FAIL (VPTWD2F)
9-15	NOT USED

110.1.4.1.11 Message Status Word. WORD 13

BIT	DESIGNATION
0-2	NOT USED
3	LOGIC 1 = EXCESSIVE UNCORRECTABLE MESSAGE ERROR RATE (MER)
4	LOGIC 1 = NO MESSAGES SUCCESSFULLY RECEIVED (NMESS)
5	LOGIC 1 = NO RESPONSE TO RTT INTERROGATIONS (NRTTR)
6	LOGIC 1 = ONE OR MORE TRANSMISSIONS RECEIVED IN ERROR (TRERR)
7	LOGIC 1 = ONE OR MORE MESSAGES NOT ACKNOWLEDGED (MNA)
8	LOGIC 1 = ONE OR MORE LOOPBACK DECODE FAILS (LCFL)
9	LOGIC 1 = ONE OR MORE LOOPBACK TOA FAILS (LTFL)
10	LOGIC 1 = ONE OR MORE OCCURRENCES OF NO LOOPBACK (NOLB)
11	LOGIC 1 = ONE OR MORE TEST MESSAGE FAILS (TMF)
12-15	NOT USED

NOTE: FOR EACH VARIABLE ABOVE:
LOGIC 1 = THE NICP REPORTED THE SPECIFIED CONDITION IN ITS LAST 12-SECOND STATUS REPORT.
LOGIC 0 = THE NICP DID NOT REPORT THE SPECIFIED CONDITION IN ITS LAST 12-SECOND STATUS REPORT.

110.1.4.1.12 LRU, BIT and Status Summary Word. WORD 14

BIT	DESIGNATION
0	LOGIC 1 = TERMINAL FAIL (TERMF)
1	LOGIC 1 = TDMA FAIL (TDMAF)
2	SPARE
3	LOGIC 1 = DDP FAIL (DDDF)
4	LOGIC 1 = IU FAIL (IUF)
5	LOGIC 1 = R/T FAIL (RTF)
6	LOGIC 1 = SDU ALERT (SDUAL)
7	LOGIC 1 = IPF FAIL (IPFF)
8	LOGIC 1 = MESSAGE FAIL (MESSF)
9	LOGIC 1 = DEGRADED PERFORMANCE (DEGPR)
10	LOGIC 1 = NICAD BATTERY FAIL (BSTIF)
11	LOGIC 1 = HPAG FAIL (HPAGF)
12-15	NOT USED

110.1.4.1.13 SRU Summary Word. WORD 15

BIT	DESIGNATION
0-3	FIRST MOST PROBABLE SRU FAIL(SRUMPF)

BIT 3 • 2 • 1 • 0	
0 • 0 • 0 • 0	NO FAILURE
0 • 0 • 0 • 1	CARD A1 FAILED
. • . • . • .	.
. • . • . • .	.
1 • 1 • 1 • 1	CARD A15 FAILED

4-7	SECOND MOST PROBABLE SRU FAIL (SRUSMPF)

BIT 7 • 6 • 5 • 4	
0 • 0 • 0 • 0	NO FAILURE
0 • 0 • 0 • 1	CARD A1 FAILED
. • . • . • .	.
. • . • . • .	.
1 • 1 • 1 • 1	CARD A15 FAILED

8-11	THIRD MOST PROBABLE FAIL SRU (SRUTMPF)

BIT 11 • 10 • 9 • 8	
0 • 0 • 0 • 0	NO FAILURE
0 • 0 • 0 • 1	CARD A1 FAILED
. • . • . • .	.
. • . • . • .	.
1 • 1 • 1 • 1	CARD A15 FAILED

12-14	UNIT-INDICATES THE LRU IN WHICH THE FAILED CARDS ARE LOCATED

BIT 15 • 14 • 13 • 12	
0 • 0 • 0 • 0	NO FAILURE
0 • 0 • 0 • 1	R/T
0 • 0 • 1 • 0	DDP
0 • 0 • 1 • 1	IU
0 • 1 • 0 • 0	SPARE
0 • 1 • 0 • 1	SDU
0 • 1 • 1 • 0	BATTERY
0 • 1 • 1 • 1	HPAG
1 • 0 • 0 • 0	NOT USED BY MCE
. • . • . • .	.
. • . • . • .	.
1 • 1 • 1 • 1	NOT USED BY MCE

110.1.4.1.14 SDU Alert Word. WORD 16

BIT	DESIGNATION
0-5	SPARE
6	LOGIC 1 = SDU ALARM HAS OCCURRED IN SLOT N
7	LOGIC 1 = SDU VAR 0 BAD
8	LOGIC 1 = SDU VAR 1 BAD
9	LOGIC 1 = SDU VAR 2 BAD
10	LOGIC 1 = SDU VAR 3 BAD
11	LOGIC 1 = SDU VAR 4 BAD
12	LOGIC 1 = SDU VAR 5 BAD
13	LOGIC 1 = SDU VAR 6 BAD
14	LOGIC 1 = SDU VAR 7 BAD
15	SPARE

NOTE: ALL OF THESE VARIABLES ARE FROM THE NICP 12-SECOND REPORT. BIT 6 (SDU ALARM) IS LOGIC 1 IF THERE WAS AN SDU ALARM AT THE TIME THE 12-SECOND REPORT WAS MADE. BITS 7-14 ARE LOGIC 1 IF THE SDU REPORTED A PARITY ERROR IN THE CORRESPONDING VARIABLE AT LEAST ONCE IN THE 12-SECOND PERIOD.

110.1.4.1.15 Degraded Performance Word. WORD 17

BIT	DESIGNATION
0	SPARE
1	LOGIC 1 = VSWR ANT A FAIL (VSWRAF)
2	LOGIC 1 = VSWR ANT B FAIL (VSWRBF)
3	LOGIC 1 = LOW PA OVERTEMP (LAOTF)
4	LOGIC 1 = POWER OUTPUT B < 3 dB DOWN (POANTDB)
5	SPARE
6	LOGIC 1 = POWER OUTPUT A < 3 dB DOWN (POANTDA)
7-15	SPARE

110.1.4.1.16 Terminal Fail (IPF) R/T-HPA. WORD 18

BIT	DESIGNATION
0	LOGIC 1 = IPF POWER LIMIT FAILURE (PL)
1	LOGIC 1 = IPF FREQUENCY SPECTRUM FAILURE (FS)
2	LOGIC 1 = IPF PULSE WIDTH FAILURE (PW)
3	LOGIC 1 = IPF RADIATED ENERGY FAILURE (RE)
4	LOGIC 1 = IPF UTILIZATION FAILURE (U)
5-6	SPARE
7	LOGIC 1 = TRANSMISSION SHUTDOWN DUE TO IPF FAILURE (TSDIPF)
8-15	SPARE

110.1.4.1.17 Startup/Interrupt Word. WORD 19

BIT	DESIGNATION
0-15	$AAAA_{16}$ = OPERATIONAL MODE OR TRANSITION FROM RECOVERABLE POWER INTERRUPT RANDOM BITS = COLD START UP

110.1.4.1.18 NICP/SICP Degraded Operation Word. WORD 20

BIT	DESIGNATION
0	LOGIC 1 = NICP TIME OVERLOAD (TON)
1	LOGIC 1 = NO NICP INTERNAL BUFFERS (NOBN)
2	LOGIC 1 = NICP FLOATING POINT OVERFLOW (OVN)
3	LOGIC 1 = NICP DIVIDE BY ZERO (DVZN)
4	LOGIC 1 = NICP NEGATIVE SQUARE ROOT (SQNN)
5-10	SPARE
11	LOGIC 1 = SICP TIME OVERLOAD (TOS)
12	LOGIC 1 = NO SICP INTERNAL BUFFERS (NOBS)
13	LOGIC 1 = SICP FLOATING POINT OVERFLOW (OVS)
14	LOGIC 1 = SICP DIVIDE BY ZERO (DVZS)
15	LOGIC 1 = SICP NEGATIVE SQUARE ROOT (SQNS)

110.1.4.1.19 Terminal Fail HPA (TDMA) Word. WORD 21

BIT	DESIGNATION
0-12	SPARE
13	LOGIC 1 = HPAG SRU FAIL (HPAGSRUF)
14-15	SPARE

110.1.4.2 MUX Data. The TR data format shall be as follows:

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 0	0	1	0	0	1	1	1	1	WORD COUNT							
wd 1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
wd 2	TIME TAG															
wd 3	I/O										MD	SUBADDRESS				
wd 4	MUX BLOCK WORD 1															
:	:															
wd M	MUX BLOCK WORD N (N#32)															

The bit designation shall be as follows:

WORD 3

BIT	DESIGNATION
0-4	SUBADDRESS
5	MUX DESIGNATOR (MD) NOT USED BY MCE
6-14	NOT USED
15	LOGIC 0 = OUTPUT MUX BLOCK LOGIC 1 = INPUT MUX BLOCK

WORD 4

BIT	DESIGNATION
0-15	MUX BLOCK WORD 1

WORD M

BIT	DESIGNATION
0-15	MUX BLOCK WORD N (N<32)

110.1.4.3 Control Discrete Data. The TR data format shall be as follows:

	MSB 15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	LSB 0
wd 0	0	1	0	0	1	1	1	1	WORD COUNT							
wd 1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
wd 2	TIME TAG															
wd 3	OUTPUT STATUS DISCRETE WORD 1															
wd 4	DIGITAL VOICE PORT MODE SELECT DISCRETE WORD															
wd 5	OUTPUT STATUS DISCRETE WORD 3															
wd 6	OUTPUT STATUS DISCRETE WORD 4 (MASK WORD)															
wd 7	SPARE INPUT WORD (RESERVED)															
wd 8	INPUT STATUS DISCRETE WORD 1															
wd 9	INPUT STATUS DISCRETE WORD 2															
wd 10	SPARE INPUT STATUS DISCRETE WORD															
wd 11	INPUT BIT WORD (33RD WORD - LSH)															
wd 12	INPUT BIT WORD (33RD WORD - MSH)															
wd 13	INPUT BIT WORD (41ST WORD - LSH)															
wd 14	INPUT BIT WORD (41ST WORD - MSH)															
wd 15	3-MHZ PULSE COUNT WORD															
wd 16	BIT SUMMARY WORD															
wd 17	SPARE INPUT WORD (RESERVED)															
wd 18	SPARE INPUT WORD (RESERVED)															

The formats of these words shall be specified in 110.1.1.4. The word formats shall be as specified in section 20.1.1.4 and section 30.1.1.4.